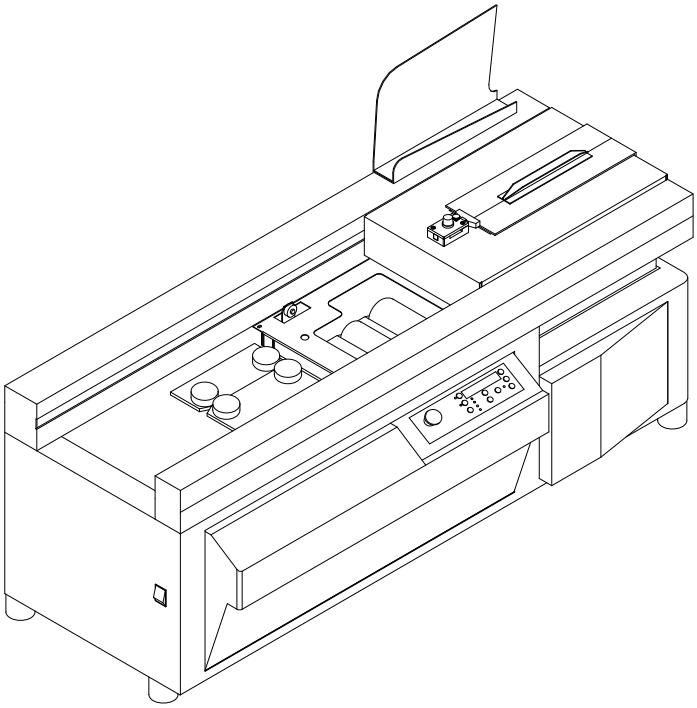
Instruction Manual

PERFECT BINDER

MODEL: DB-280, DB-200, DB-660, DB-700



Duplo Taiwan Corporation

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8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI,TAIWAN

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EUROPEAN INSPECTION AND CERTIFICATION COMPANY S.A.
NOTIFIED BODY 1128
TATOIOU 73 & CHAR. TRIKOUPI, KIFISIA 14564, TEL: 210-6252495, FAX: 210-6203018
email: eurocert@otenet.gr, site: www.eurocert.gr

CERTIFICATE No: TW.CE.0055.02-01/10

CERTIFICATE OF CONFORMITY

FULLNESS EXAMINATION AND ARCHIVING OF TECHNICAL FILE

Manufacturer	Name	:	DUPLO TAIWAN CORPORATION.
	Address	:	8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI, TAIWAN
Relevant Equipment as described to the Technical Construction File No.: DT-2010-A1	Product Name	:	PERFECT BINDER
	Model	:	DB-280, DB-200, DB-660, DB-700
Applicable Directives		:	Low Voltage Directive 2006/95/EC
Applicable Standards		:	EN 60204-1:2006+A1:2009

This is to certify that, upon the relevant request of DUPLO TAIWAN CORPORATION., EUROCERT S.A. as Third Party Authority, has received, archived and proceed to the fullness examination of the Technical Construction File of the above mentioned product.

The Technical Construction File has been archived at EUROCERT's records with code number TW.CE.0055TCF.

Following the fullness examination of the Technical Construction File we confirm that it is adequate in respect with the basic health and safety prerequisites of Low Voltage Directive 2006/95/EC (Annex IV).

The manufacturer is obliged to issue a Declaration of Conformity according to the basic requirements of relative directives (2006/95/EC Annex III B) and places the CE marking with his own responsibility as follows:

CE

All modifications to the Technical File should be first submitted to the Third Party Inspection Authority to ensure further validity of this attestation.

Third Party Authority Stamp

Date and Place of Issue
ATHENS, 26/01/2010
For EUROCERT S.A.

GEORGE N. SIFONIOS
DIRECTOR OF DEVELOPMENT

EUROPEAN INSPECTION AND CERTIFICATION COMPANY S.A.
NOTIFIED BODY 1128
TATOIOU 73 & CHAR. TRIKOUPI, KIFISIA 14564, TEL: 210-6252495, FAX: 210-6203018
email: eurocert@otenet.gr, site: www.eurocert.gr

CERTIFICATE No: TW.CE.0056-01/10

CERTIFICATE OF CONFORMITY
FULLNESS EXAMINATION AND ARCHIVING OF TECHNICAL FILE

Manufacturer	Name	:	DUPLO TAIWAN CORPORATION.
	Address	:	8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI, TAIWAN
Relevant Equipment Test Report No.: E09D005	Product Name	:	PERFECT BINDER
	Model	:	DB-280, DB-200, DB-660, DB-700
Applicable Directives		:	Electromagnetic Compatibility 2004/108/EC
Applicable Standards		:	EN 61000-6-2, EN 61000-6-4

This is to certify that, upon the relevant request of DUPLO TAIWAN CORPORATION., EUROCERT S.A. as Third Party Authority, has received, archived and proceed to the fullness examination of the Technical Construction File of the above mentioned product.

The Technical Construction File has been archived at EUROCERT's records with code number TW.CE.0056TCF.

Following the fullness examination of the Technical Construction File we confirm that it is adequate in respect with the basic health and safety prerequisites of Electromagnetic Compatibility 2004/108/EC (Annex IV-1).

The manufacturer is obliged to issue a Declaration of Conformity according to the basic requirements of relative directives (2004/108/EC Annex IV-2) and places the CE marking with his own responsibility as follows:

CE

All modifications to the Technical File should be first submitted to the Third Party Inspection Authority to ensure further validity of this attestation.

Third Party Authority Stamp

Date and Place of Issue
ATHENS, 26/01/2010
For EUROCERT S.A.

GEORGE N. SIFONIOS
DIRECTOR OF DEVELOPMENT

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CERTIFICATE No: TW.CE.0055-01/10

CERTIFICATE OF CONFORMITY

FULLNESS EXAMINATION AND ARCHIVING OF TECHNICAL FILE

Manufacturer	Name	:	DUPLO TAIWAN CORPORATION.
	Address	:	8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI, TAIWAN
Relevant Equipment as described to the Technical Construction File No.: DT-2010-A1	Product Name	:	PERFECT BINDER
	Model	:	DB-280, DB-200, DB-660, DB-700
Applicable Directives		:	Machinery Directive 2006/42/EC
Applicable Standards		:	EN ISO 12100-2:2003+A1:2009, EN ISO 12100-2:2003+A1:2009

This is to certify that, upon the relevant request of DUPLO TAIWAN CORPORATION., EUROCERT S.A. as Third Party Authority, has received, archived and proceed to the fullness examination of the Technical Construction File of the above mentioned product.

The Technical Construction File has been archived at EUROCERT's records with code number TW.CE.0055TCF.

Following the fullness examination of the Technical Construction File we confirm that it is adequate in respect with the basic health and safety prerequisites of EU Machinery Directive 2006/42/EC.

The manufacturer is obliged to issue a Declaration of Conformity according to the basic requirements of relative directives and places the CE marking with his own responsibility as follows:

CE

All modifications to the Technical File should be first submitted to the Third Party Inspection Authority to ensure further validity of this declaration.

This certificate is valid until 25/01/2015

Third Party Authority Stamp

Date and Place of Issue
ATHENS, 26/01/2010
For EUROCERT S.A.

GEORGE N. SIFONIOS
DIRECTOR OF DEVELOPMENT

EC DECLARATION OF CONFORMITY

We, DUPLO TAIWAN CORPORATION., .8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI,TAIWAN declare under our sole responsibility that the product

PERFECT BINDER
Model：DB-280, DB-200, DB-660, DB-700

has been designed and manufactured in accordance with the following standards

Harmonized Standard

EN 61000-6-2 : 2001 / Electromagnetic compatibility (EMC)
Part 6-2 : Generic standards – Immunity for industrial environments
EN 61000-6-4 : 2001 / Electromagnetic compatibility (EMC)
Part 6-4 : Generic standards – Emission standard for industrial environments
IEC 61000-4-2:20001
Electromagnetic Compatibility (EMC) - Part 4-2: Testing and Measurement Techniques - Electrostatic Discharge Immunity Test Edition 1.2; Edition 1:1995 Consolidated with Amendments 1:1998 and 2:2000
IEC 61000-4-4:2004
Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
IEC 61000-4-5:2005
Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
IEC 61000-4-6:2007
Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61000-4-8:2001
Electromagnetic Compatibility (EMC) - Part 4-8: Testing and Measurement Techniques - Power Frequency Magnetic Field Immunity Test Edition 1.1; Edition 1: 1993 Consolidated with Amendment 1: 2000

Industrial, scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement

A sample of the equipment has been tested for CE marking according to the EC Electromagnetic compatibility 2004/108/EC

The TCF (No. E09D005) is archived in EUROPEAN INSPECTION AND CERTIFICATION COMPANY S.A. (Notified Body No.1128) located in 73 Tatoiou & Char. Trikoupi, Kifisia 14564, Athens, Greece.

The TCF (No. E09D005) is archived in Duplo International Limited located in Sandown Industrial Park, Mill Road, Esher, Surrey, KT10 8BL, United Kingdom.

Issue place and date **Company stamp and Signature of authorized personnel**

EC DECLARATION OF CONFORMITY

CE

According to the following EC Directives

- Machinery Directive : 2006/42/EC
- Low Voltage Directive : 2006/95/EC
- Electromagnetic Compatibility Directive : 2004/108/EC

The undersigned,_____, representing DUPLO TAIWAN CORPORATION. / 8F., NO.2, SEC.4, CHUNG HSIAO E.RD., TAIPEI, TAIWAN, manufacturer, declares that the machine described hereafter:

PERFECT BINDER
MODEL:
DB-280, DB-200, DB-660, DB-700

Provided that it is used and maintained in accordance with the generally accepted codes of good practice and the recommendations of the instructions manual, meets the essential safety and health requirements of the Machinery Directive, Low Voltage Directive and Electromagnetic Compatibility Directive.

The TCF (No. DT-2010-A1) is archived in EUROPEAN INSPECTION AND CERTIFICATION COMPANY S.A. (Notified Body No.1128) located in 73 Tatoiou & Char. Trikoupi, Kifisia 14564, Athens, Greece.

The TCF (No. DT-2010-A1) is archived in Duplo International Limited located in Sandown Industrial Park, Mill Road, Esher, Surrey, KT10 8BL, United Kingdom.

For the most specific risks of this machine, safety and compliance with the essential requirements of the Directive has been based on elements of:

- EN ISO 12100-1:2003+A1:2009/Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology.
- EN ISO 12100-2:2003+A1:2009 / Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles
- EN 349 : 1993 +A1:2008 / Safety of machinery - Minimum gaps to avoid crushing of parts of the human body
- EN ISO 13849:2008 / Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design
- EN ISO 13850 : 2008 / Safety of machinery - Emergency stop equipment, functional aspects - Principles for design.
- EN 953 : 1997+A1:2009 / Safety of machinery – Guard – General requirements for the design and construction of fixed and movable guards
- EN 982:1996+A1:2008/ Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics
- EN 983:1996+A1:2008/ Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics
- EN ISO 13857: 2008 / Safety distances to prevent hazard zones being reached by upper and lower limbs.
- EN ISO 14121-1:2007 / Safety of machinery - Risk assessment - Part 1: Principles
- EN 1088 : 1995+A2 : 2008 / Safety of machinery – Interlocking devices associated with guards – Principles for design and selection
- EN 60204-1 : 2006+A1:2009 / Safety of machinery - Electrical equipment of machines - Part 1 : General requirements. Industrial electrical device.
- EN 61000-6-2 : 2001 / Electromagnetic compatibility (EMC) Part 6-2 : Generic standards – Immunity for industrial environments
- EN 61000-6-4 : 2001 / Electromagnetic compatibility (EMC) Part 6-4 : Generic standards – Emission standard for industrial environments

Date:_____

Signature:_____

Qualification : General Manager

1 Safety Instruction

General Safety Regulation

Warning

Be careful of the following items that may cause injury or damage.

- Do not place tiny items on top of the machine to avoid dropping them into the machine.
- Pay close attention to the warning signs on the machine that indicates a dangerous or "no-touch" area of the machine.
- Keep hands and fingers away from glue tank and notching station.
- Use only the suggested hot melt glues with the following characteristics:

  Application temperature: 260 F (126.67 ℃) to 290F (143.33 ℃)

  Working Glue Viscosity: 3,800 to 7,250 CPS
- **Duplo is not responsible for the quality of the binding that is produced by the non-suggested glues.**

In case of thermostat failure :

DB-280 has implemented the secondary thermostat to protect the glue tank temperature over 410F (210。C). When it occurs, the power of DB-280 will be automatically turned off. You have to wait for the glue tank to cool down before you can restart the machine. If this problem occurs again, call your authorized dealer for service.

1.1 Safety Regulation

- KNOW YOUR MACHINE.
  For your own safety, read the owner's manual carefully. Learn its application and limitations as well as specific potential hazards pertinent to this machine.
- KEEP GUARDS IN PLACE AND IN WORKING ORDER.

- REMOVE ADJUSTING KEYS AND WRENCHES.
  For habit of checking to see that keys and adjusting wrenches are remove from the machine before turning it on.
- KEEP WORK AREA CLEAN.
  Cluttered areas and benches invite accidents.
- DO NOT USE IN DANGEROUS ENVIRONMENTS.
  Do not use power tools in damp or we locations, or expose them to rain. Keeps work area well illuminated.
- KEEP CHILDREN AWAY.
  All visitors should be kept at a safe distance from work area.
- MAKE WORKSHOP CHILDPROOF.
  With padlocks, master switches, or by removing starter keys.
- DO NOT FORCE THE MACHINE.
  It will do the job better and be safer at the rate for which it was designed.
- USE THE RIGHT TOOLS.
  Do not force the machine or attachments to do a job for which they were not designed.
- WEAR PROPER APPAREL.
  Avoid loose clothing, gloves, neckties, rings, bracelets, or jewelry, which could be caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- SECURE WORK.
  Use clamps or a vice to hold work when practical. It is safer than using your hand and frees both hands to operate the machine.
- DO NOT OVERREACH.
  Keep proper footing and balance at all times.
- MAINTAIN MACHINE IN TOP CONDITION.
  Keep machine clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- DISCONNECT MACHINE FROM POWER SOURCE.
  Before servicing and when changing accessories, or when mounting and remounting motor.
- USE RECOMMENDED ACCESSORIES.
  Consult the owner's manual for recommended accessories.
- NEVER LEAVE MACHINE RUNNING UNATTENDED. TURN POWER OFF.

- Protective guards and shields must be in place at all times unless that specific part requires servicing.

- Never clean or remove chips while the machine is running.

- Do not remove or alter warning labels and replace any that become obscured.

Warranty

If any part is proved to be defective within ONE YEAR from the date of purchase then the manufacturer or distributor shall repair or replace the part provided the defective part is returned immediately to the manufacturer or distributor.

The manufacturer or distributor shall have no obligation to repair or replace those parts failing due to operator carelessness, misuse or due to any cause such as parts failing due to poor lubrication, inadequate cleaning, improper operating environment, improper utilities or operator error.

1.2 Warning Plate

This machine has warning symbols attached on it as shown below to ensure proper and safe operation. These symbols are used on the machine to indicate points or instances of specific danger to operating personnel. Make sure to memorize these symbols and bring them to the attention of others as and when necessary. Do not remove safety symbols from the machine.

Electrical shock

Hand Crush/Force from two sides

Cutting of fingers or hand rotating blade

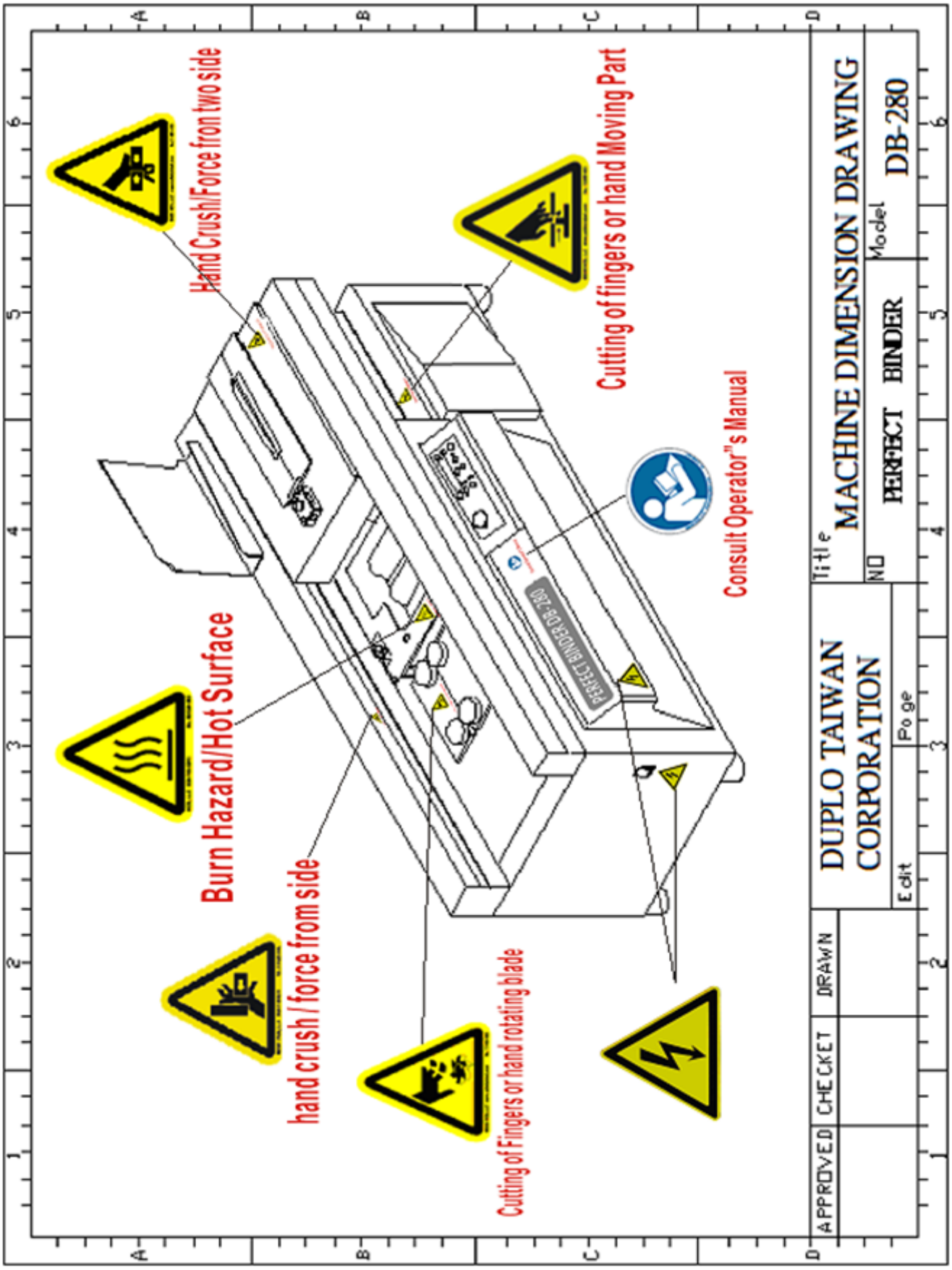
Burn Hazard/Hot Surface

Hand Crash/ force from side

Cutting of fingers or Hand/moving part

Consult service manual

1.3 Location of safety signs on the press brake is shown in the figure below



1.4 Name Plate

2 Specification

2.1 Specification

Model	**DB-280**
Maximum Book Size	12.6” x 15.75” (320mm x 400mm)
Minimum Book Size	3.15” x 1.97” (80mm x 50mm)
Maximum Binding Thickness	1.6” (40mm)
Glue Warm Up	40 minutes (varies depending upon glue type)
Glue Warm Up in Stand-by Mode	5 minutes
Cycle Speed	360 cycles per hour
Production Speed	Up to 200 books per hour
Power Source	110V, 60 Hz (Option: 220V, 50 Hz)
Power Consumption	10 Amps.
Machine Weight	262 lbs (119 Kg)
Machine Dimension	49.2”(L) x 22”(W) x 18.5”(H) (1250x560x470mm)

Model	**DB-200**
Maximum Book Size	12.6” x 15.75” (320mm x 400mm)
Minimum Book Size	3.15” x 1.97” (80mm x 50mm)
Maximum Binding Thickness	1.6” (40mm)
Glue Warm Up	25 minutes (varies depending upon glue type)
Glue Warm Up in Stand-by Mode	5 minutes
Cycle Speed	360 cycles per hour
Production Speed	Up to 200 books per hour
Power Source	220V/240V, 50 Hz
Power Consumption	10 Amps.
Machine Weight	255 lbs (116 Kg)
Machine Dimension	45.3”(L) x 22”(W) x 14.5”(H) (1150x560x370mm)

Model	**DB-660**
Maximum Book Size	11.7” x 15.53” (297mm x 420mm)
Minimum Book Size	5.7” x 5.51” (145mm x 140mm)
Maximum Binding Thickness	2.3” (60mm)
Glue Warm Up	40~50 minutes (varies depending upon glue type)
Glue Warm Up in Stand-by Mode	5 minutes
Cycle Speed	570 cycles per hour
Production Speed	Up to 200 books per hour
Power Source	110V, 60 Hz (Option: 220V, 50 Hz)
Power Consumption	10 Amps.
Machine Weight	210~230 Kg ±3 Kg
Machine Dimension	54.3”(L) x 25.6”(W) x 40.9”(H) (1380x650x1040mm)

Model	**DB-700**
Maximum Book Size	11.7” x 8.26” (297mm x 210mm)
Minimum Book Size	5.7” x 5.51” (145mm x 140mm)
Maximum Binding Thickness	1.57” (40mm)
Glue Warm Up	40~50 minutes (varies depending upon glue type)
Glue Warm Up in Stand-by Mode	5 minutes
Cycle Speed	620 cycles per hour
Production Speed	Up to 200 books per hour
Power Source	110V, 60 Hz (Option: 220V, 50 Hz)
Power Consumption	10 Amps.
Machine Weight	250~270 Kg ±3 Kg
Machine Dimension	78.7”(L) x 43.3”(W) x 25.6”(H) (2000x1100x650mm)

2.2 Machine Noise

DECLARED NOISE EMISSION VALUES in accordance with ISO 7960.	
	Operating
Declared A-weighted Sound Power Level, Lward, in dB re 1 pW	81.8
Declared A-Weighted Emission Sound Pressure Level , lpAd , in dB re 20 μPa , at the operator's position.	68.8

The values are determined according to specific test code ISO 3746.

The figures quoted are emission levels and are not necessarily safe work levels, whilst there is a correlation between emission and the exposure level. This cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of work piece include the duration of noise. (i.e. The number of other adjacent machines).

Also, the permissible exposure levels can vary country to country. The information, however, will enable the machine user to make a better evaluation of hazard and the risk.

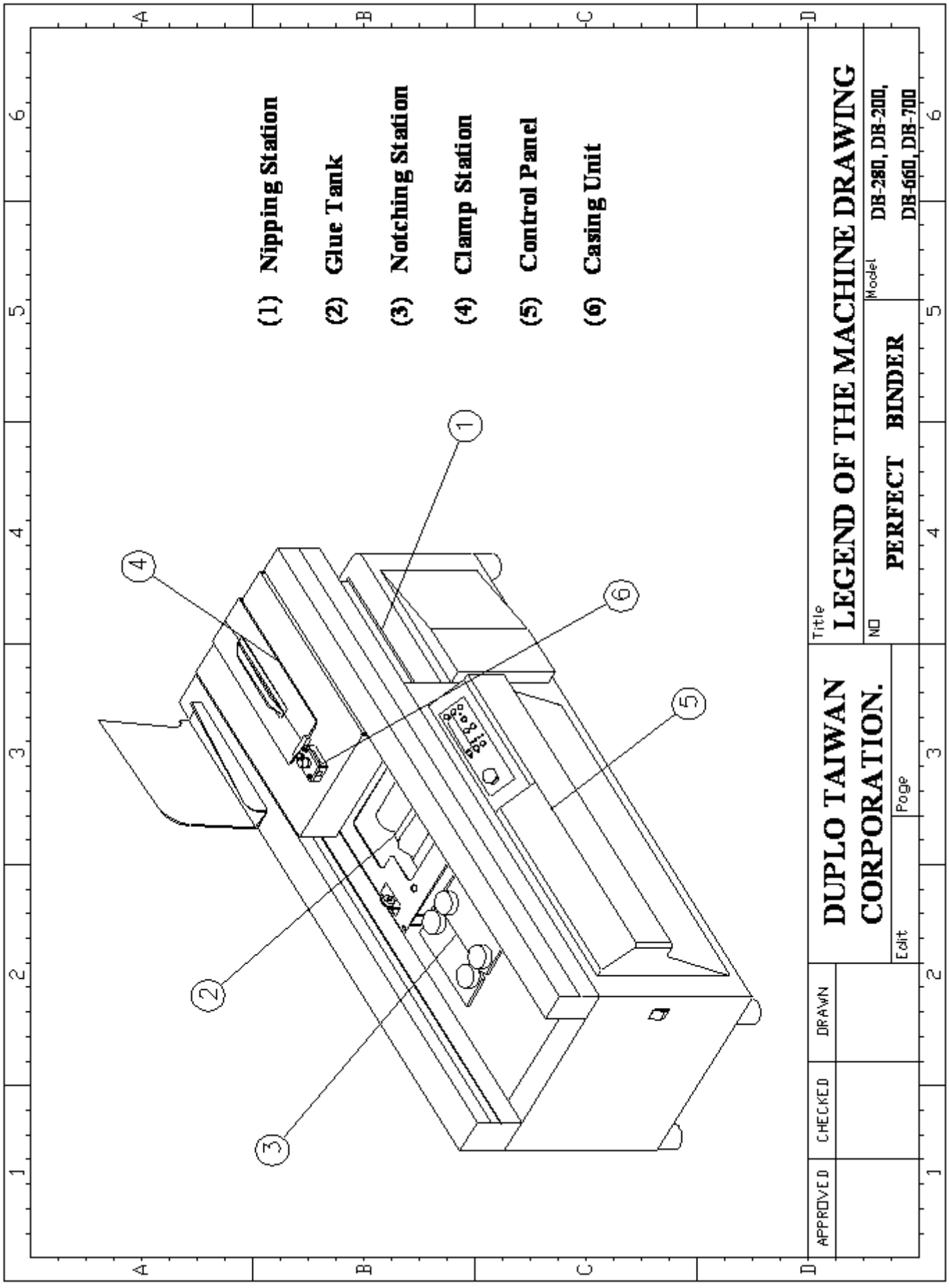
2.3 Function of the Machine

1. Provided a flat surface for the book block, when there are being placed into the clamp station. It also provides the nipping force to form the cover around the spine of the book.

2. Holding the book block for the notching, gluing, and nipping processes of bookbinding.

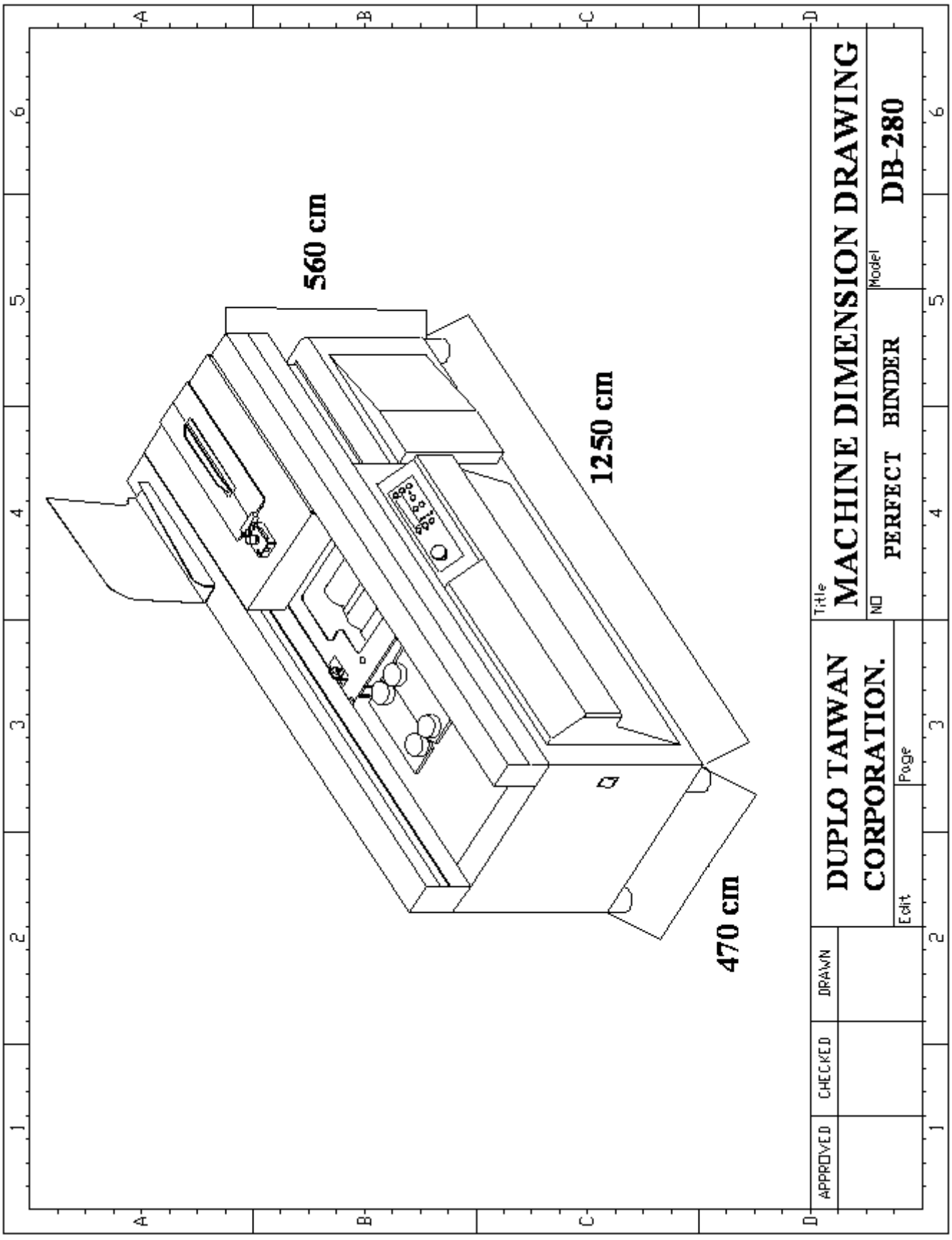
3. Provides driving power to move and locate the clamp station over the glue drum and notching station, then return it back to the nipping station for covering and binding.

2.4 Legend of the Machine Drawing

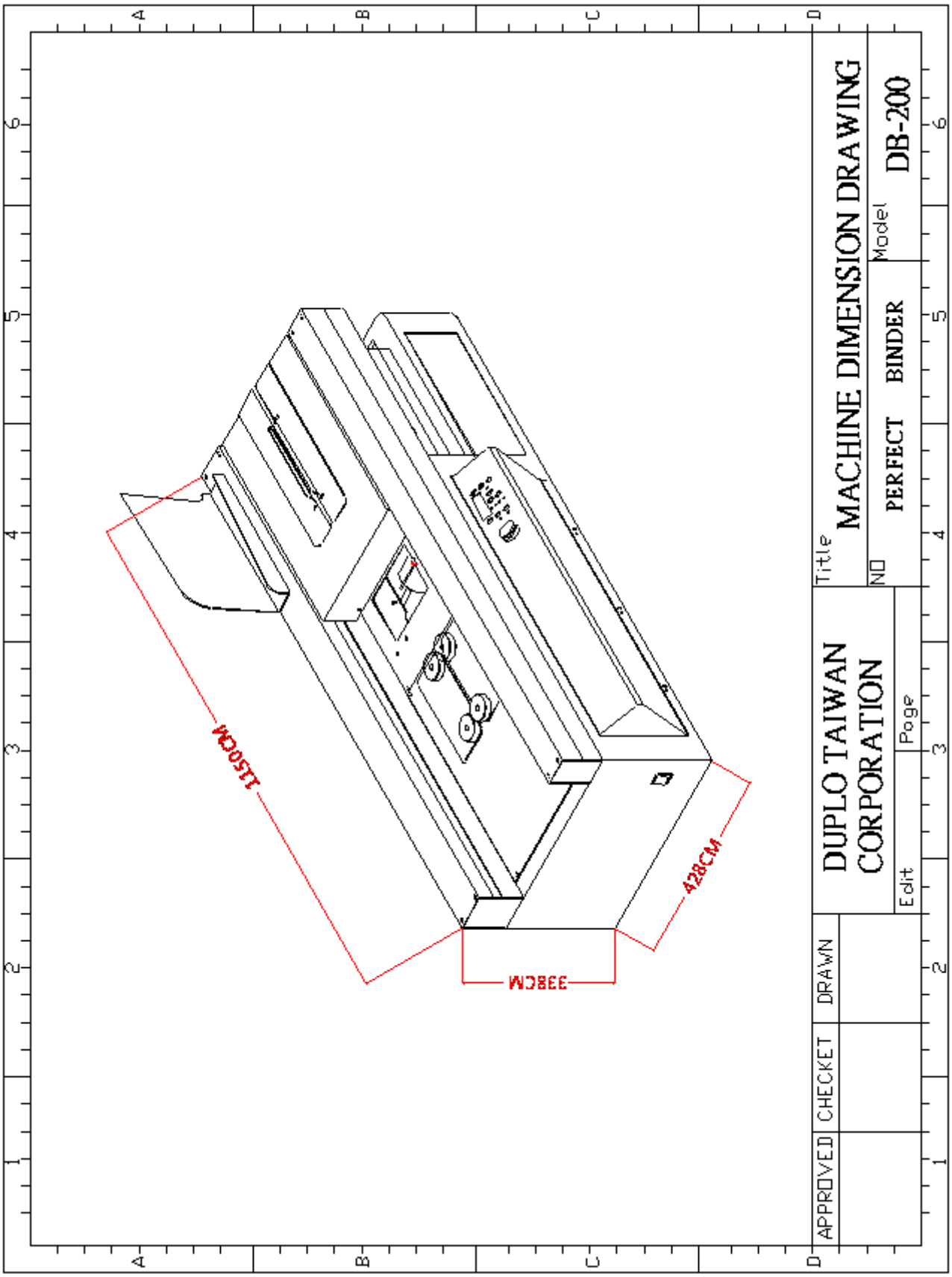


2.5 Machine Dimension Drawing

DB-280



DB-200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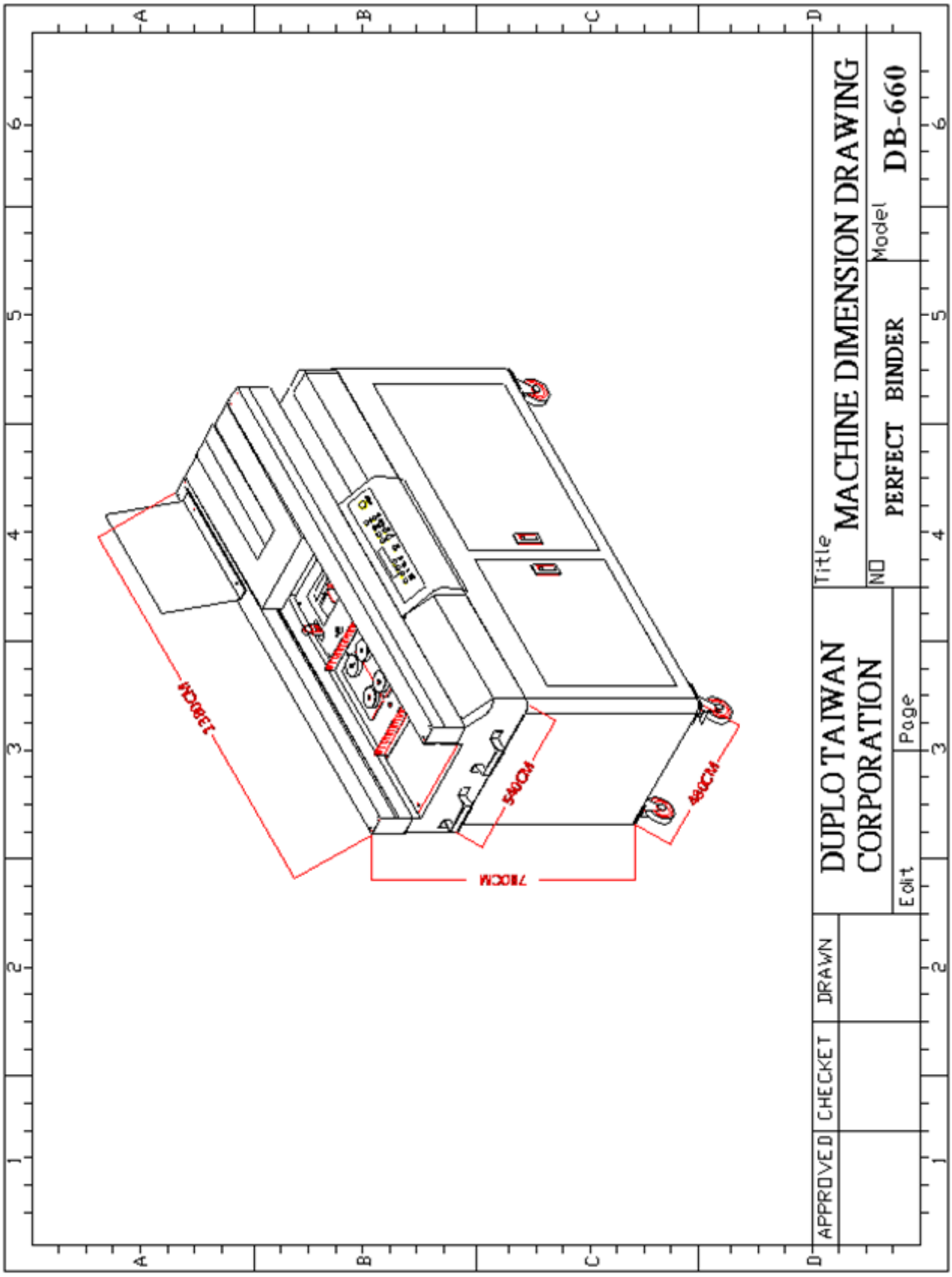
NO
PERFECT BINDER
Model
DB-200

DB-660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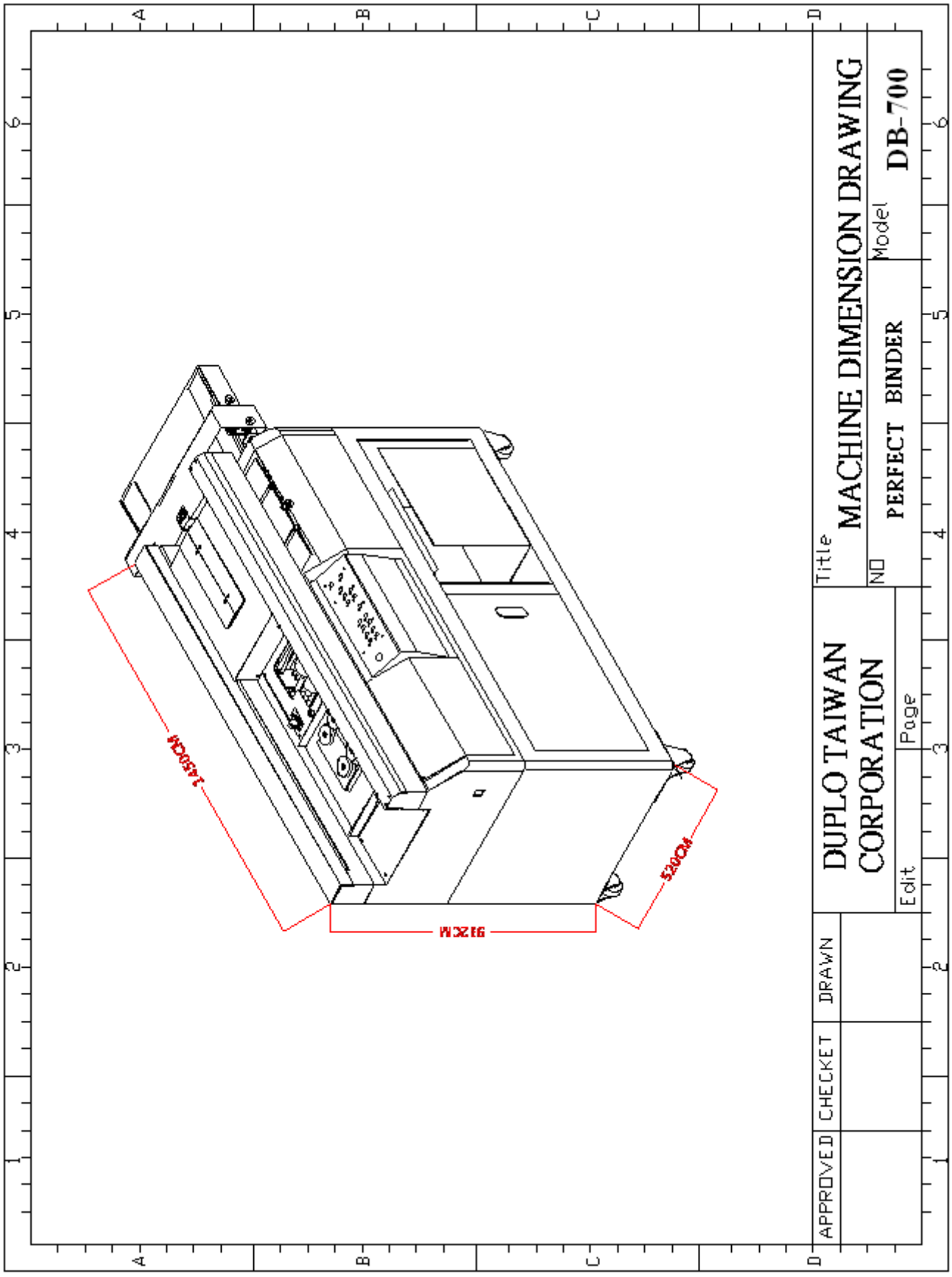
DB-700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DB-700
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3 Installation

3.1 Safety Rules for Machine Movement

SETTING THE MACHINE IN PLACE

- The haulage of the machine to the installation place is done with the crane or forklift.

- Before unloading the machine, conduct a complete inspection of any damage which might have been caused during transportation.

- Before placing the machine on the production floor, make sure that the floor base is thick and strong enough to endure mechanical vibration and to support the weight of the machine for a long time.

- Allow enough room around the machine for auxiliary production equipment for the maintenance of the machine.

- Use haulage equipment with sufficient strength for the machine weight. (Such as a crane, forklift, wire ropes, and hooks)As for machine size, make sure the specifications table.

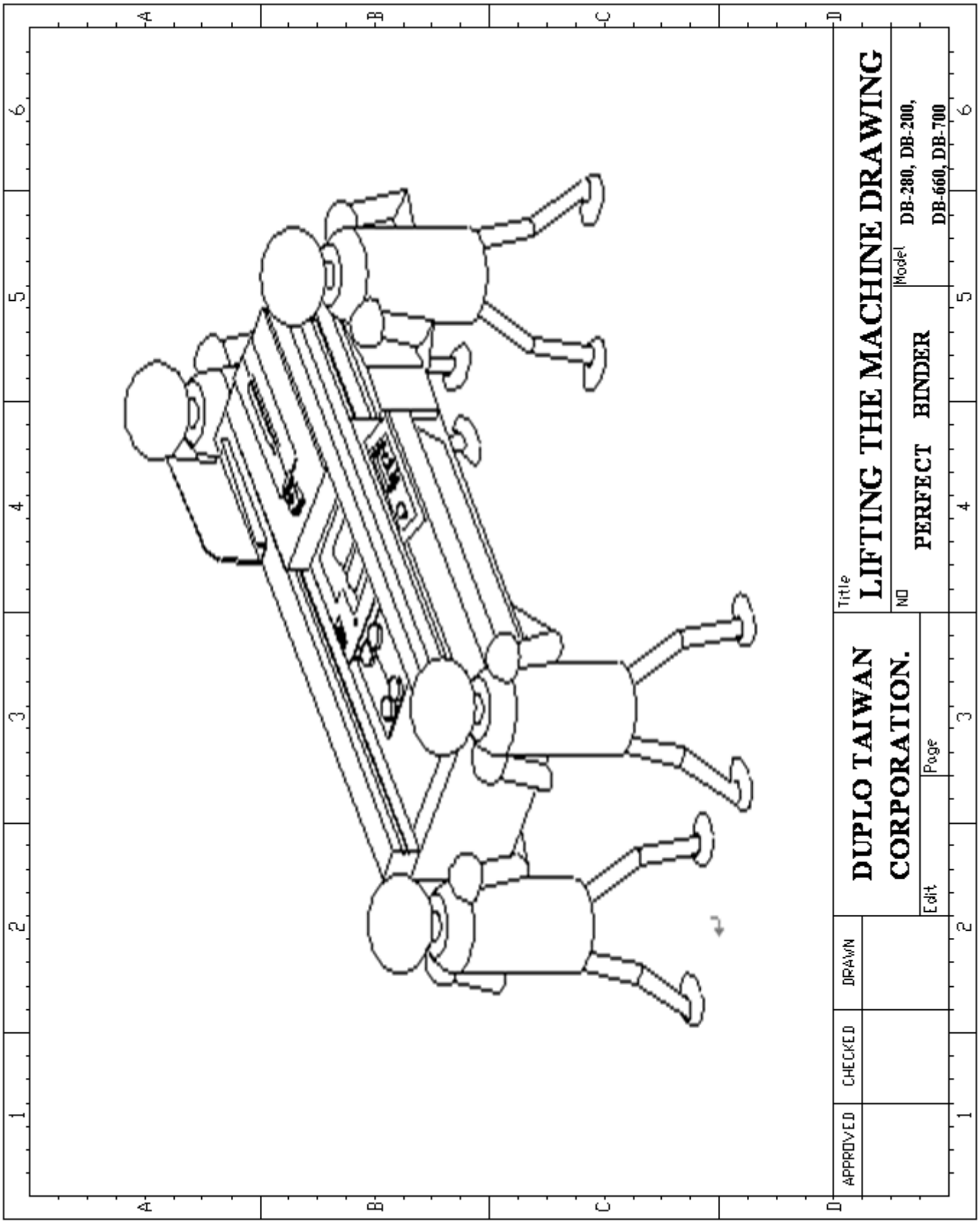
- When looping the wire ropes, put pads between the wire ropes and the machine body at the places where the wire ropes contacts the machine body so that the machine will not get damage.

specifications table about haulage:

Variant NO.		Basic
Variant Identification	Unit	DB-280
Environment temperature	°C	+0°C~+40°C
Environment humidity	%	85%
Machine size (L.W.H)	mm	1250x560x470
Machine weight	kg	119
Center-of-gravity position (L.W.H)	mm	1250x560x470
Min. room for setting place (L.W.H)	mm	1250x560x470

3.2 Lifting the Machine / Drawing

At least four people to lift up the machine



3.3 Selection of Installation Location

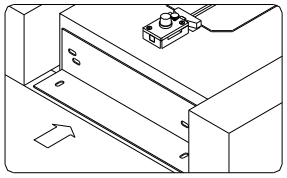
1. Install the machine on a level safe, firm and solid table which will hold the weight of the machine.
2. Keep the machine away from the direct sunlight and heat sources such as stoves, heaters and radiators.

3.4 Installation/Drawing

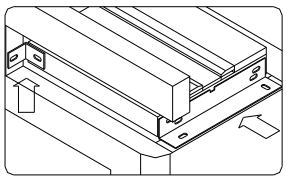
Note: You must remove the three red shipping brackets before installing your DB-280

The procedures for installation:

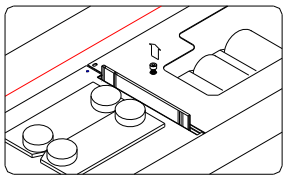
Remove the red shipping bracket located on the left side of the clamp station as shown. Then reinstall the screws in clamp station.



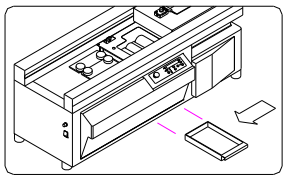
Remove two red shipping brackets that are located around the nipping station as shown.



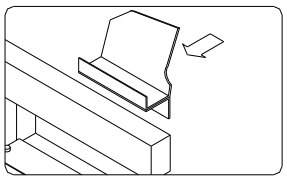
Please remove the M6 screw which located around the Glue Tank



Lift up your DB-280, slide in the bottom cover first. Then slide in the glue draining tray underneath the glue tank as shown.



Place your DB-280 on a safe, firm and solid table. Then mount the cover-sheet holder to the right side of the machine as shown.



3.5 Installation and Leveling

3.5.1 Tools: adjust screw by screwdrivers , Allen wrench

3.5.2 The main machine is calibrated by level gauge to hundredth precision

3.6 Power Supply Requirement

Insufficient voltage from factory power source may affect the power output of the motor and the function of the controller.

It is important to connect this machine to the correct voltage in the factory power source. Use only an independent power source.

Table for power supplies requirement:

Model	Kw	Voltage	Current	Breaker capacity	Wire size
DB-280	9.7Kw	220V	13A	50A	2.08mm²
DB-200	9.7Kw	220V	13A	50A	2.08mm²
DB-660	1.75kw	220V	15A	50A	2.08mm²
DB-700	1.80kw	220V	18A	50A	2.08mm²

3.7 External Power Connection

1. Connect the machine to a dedicated power outlet. Never connect the machine to a power outlet servicing other appliances or electrical devices.
2. Place the machine close to the power outlet. Do not use extension cords. Use the machine only where voltage is relatively constant.
3. The range of power supplies for proper operation of the machine.
   Tolerance of power supply: LOCAL VOLTAGE 110V or 220V 10%
   Frequency fluctuation: 110 V @ 60Hz 10% or 220V @ 50Hz 10%

3.8 Check Connection of Power Wires

After the power wires have been connected it is necessary to check if the power wires are connected to the correct connection points.

Check periodically to ensure the following :

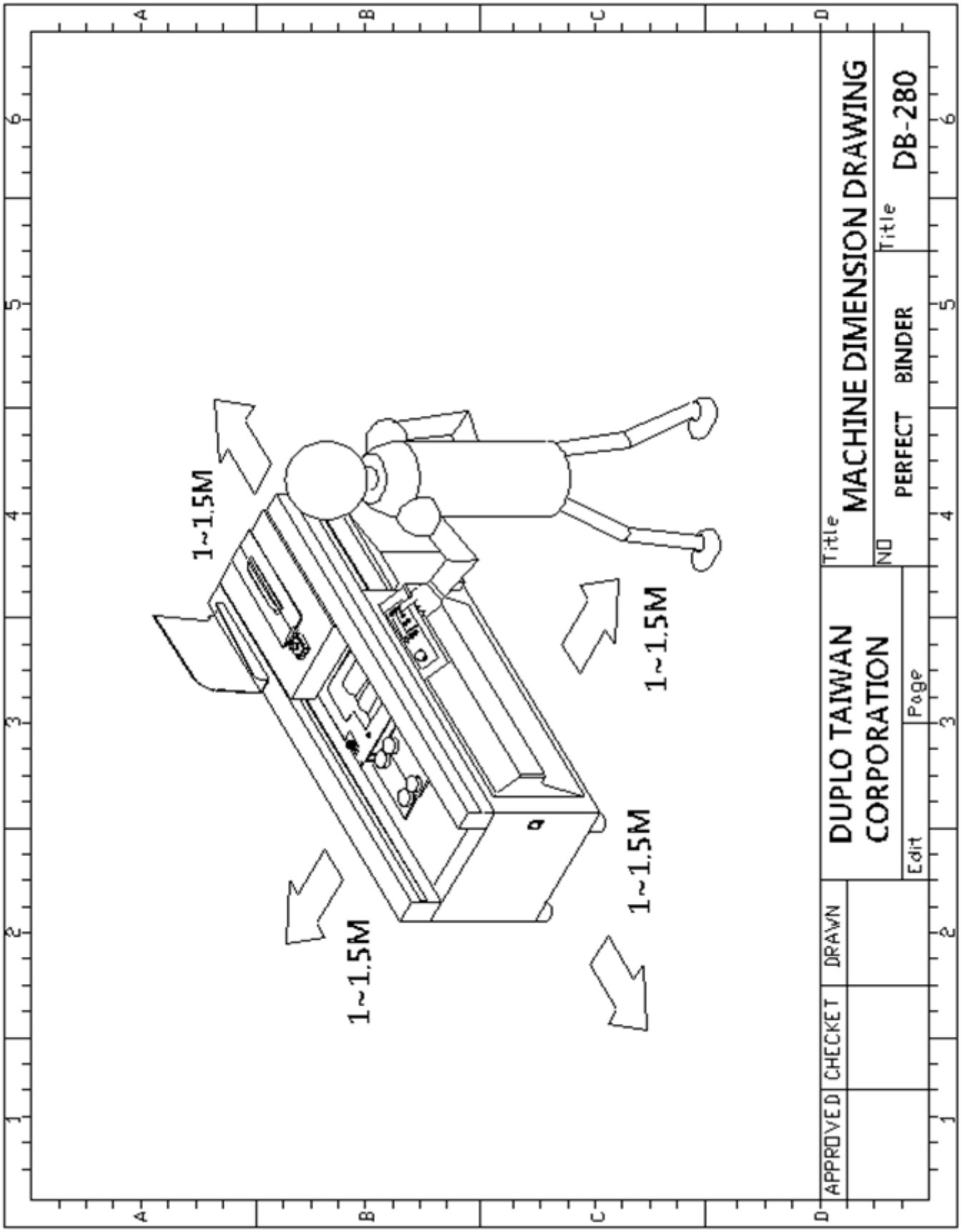
The plug is not excessively hot

The power cord is not damaged

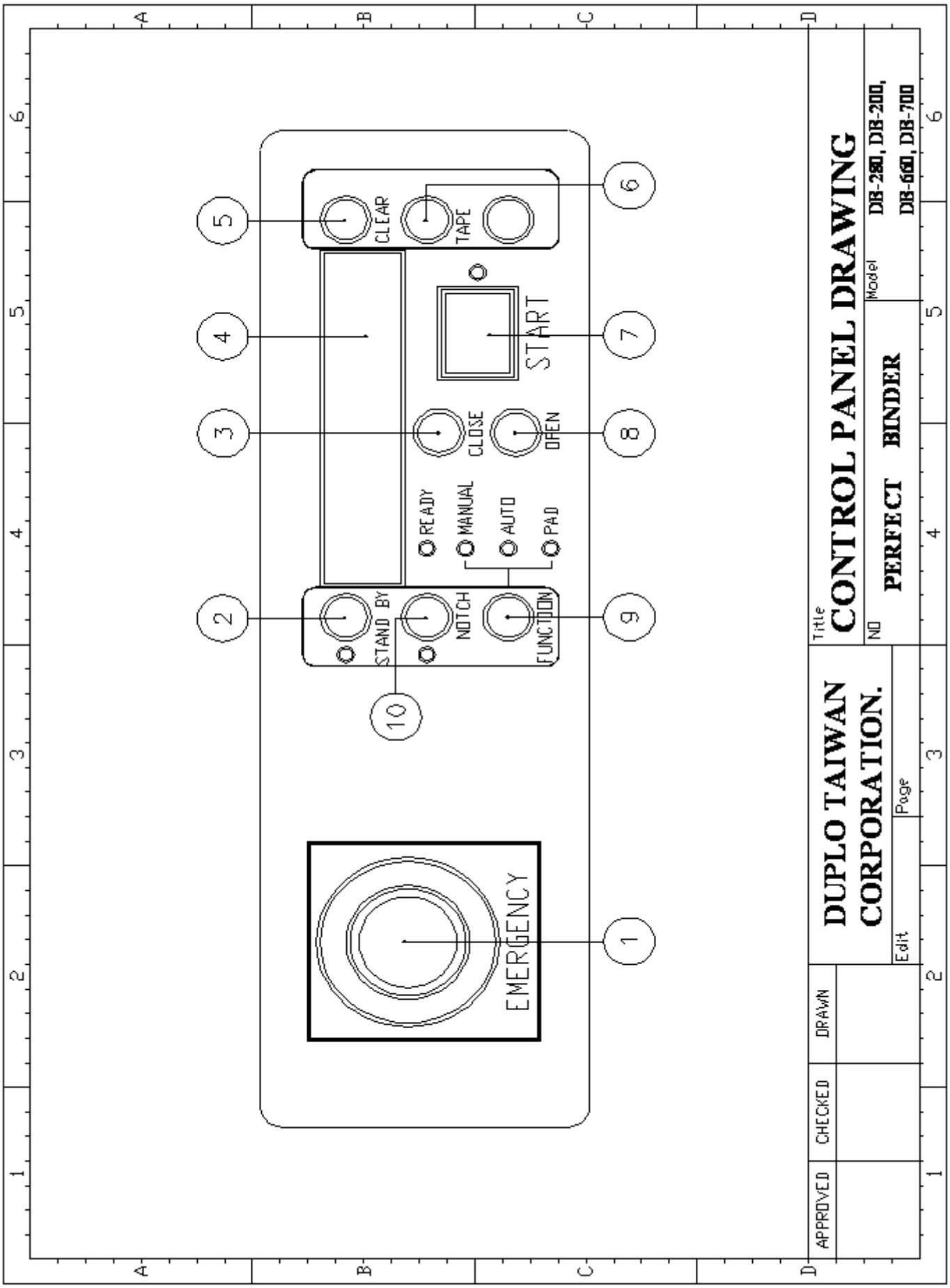
The plug is firmly plugged into the outlet

4 Operation

4.1 Operator Position (Drawing)



4.2 Control Panel



No.	Name	Description	LED Display / Example
1	EMERGENCY	Stop all the actions of the machine. Except when "HOT" shows on the LED DISPLAY.	"STOP" (flashing)
2	STAND BY / LED	Temporarily lowers the temperature of glue tank so it won't burn the glue when the machine is not operated.	STBY00
3	CLOSE	Close clamp.	
4	LED DISPLAY	The amount of books bound.	____100
		1)The amount of books bound.	
		2) Operating status.	BIND
		3) Perform self-test and stir the hot melt glue.	S-TEST
		4) Error messages.	ERR = L1
5	CLEAR	Clear the display counter for books bound.	____0
6	TAPE	Tape Mode, LCD display "TAPE MODE"	___25
7	START / LED	Indicates the "START" button is ready for proceeding to the next operation.	
8	OPEN	Open clamp.	
9	FUNCTION / LED	Select one of the function modes - MANUAL, AUTO, or PAD.	One of the mode indicators will be lit.
10	NOTCH / LED	Select the notching function during the bookbinding operation.	

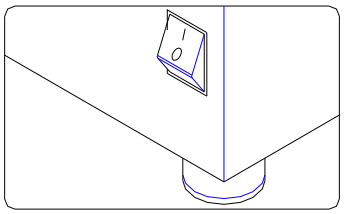
4.3 Emergency Stop

When the emergency and Safety function is started, the machine will be stopped immediately and reset all commands, the motor is stopped too. During machining, if any malfunction occurs, press this switch to stop all motion. When restarting machine remember to turn this switch to the right to release it.

4.4 Operation Procedure

(Using the DB-280)

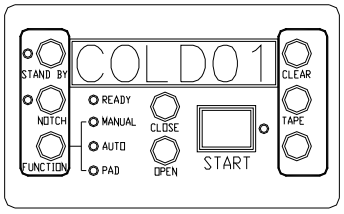
START UP:



Turn ON the power switch of DB-280 as shown.

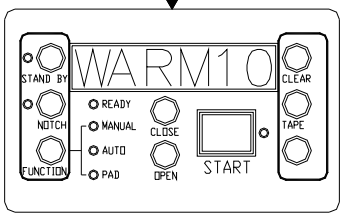
(where “I” for ON; “O” for OFF)

The heater of DB-280 will automatically heat the glue to the preset working temperature and display the status of the heating processes.The 4 leftmost spaces of LED: the status of heating process (COLD, WARM, or HOT).The 2 rightmost spaces of LED: The elapsed time of heating.



Start melting the glue.

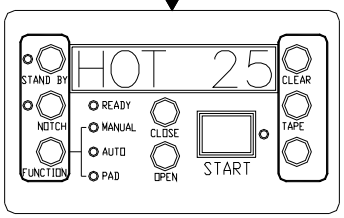
The status is COLD and the elapsed time is one minute for this example as shown.



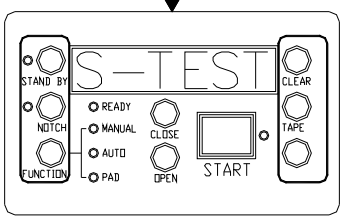
Melting glue is processing.

The status is WARM and the elapsed time is 10 minutes for this example as shown.

After heating for a while, the glue temperature has reached HOT status. The elapsed time is 25 minutes for this example as shown.

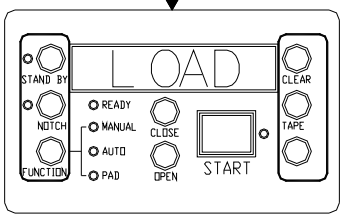


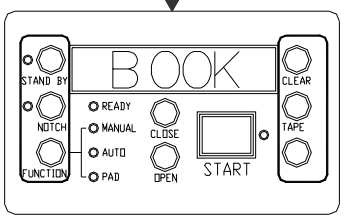
When the glue temperature has reached the working temperature, DB-280 performs the self-test and stirs the melting glue.



DB-280 is ready for bookbinding and set to MANUAL mode for your desired operation. At this moment, the control panel will display and flash "LOAD BOOK" for your attention.

For binding operations, please refer to the MANUAL, AUTO and PAD operations.

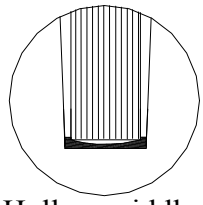




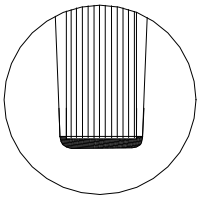
4.4.1 Glue Adjustment

The glue level may require adjustment when the thickness of the book or pad varies. Use the following book spine illustrations for guidelines.

• Increasing the holt-melt glue when

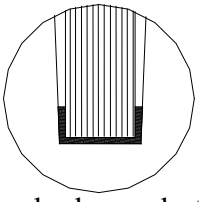


Hollow middle OR

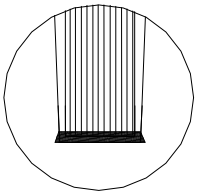


Round

• Decreasing hot-melt glue when



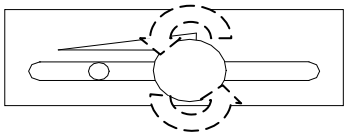
Too much glue on both sides OR



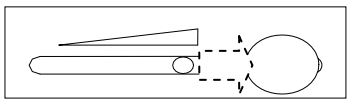
Nail head

Adjusting the glue level :

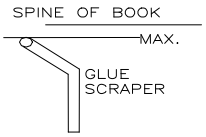
1. Turn the glue adjustment lock knob counter clockwise to loosen.



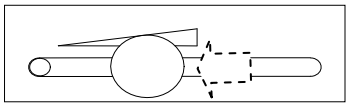
2. Increase the amount of glue by sliding the knob to the right at the appropriate position.



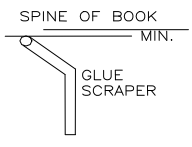
MIN **MAX**



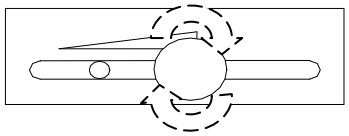
3. Decrease the amount of glue by sliding the knob to the left at the appropriate position.



MIN **MAX**



4. Turn the knob clockwise to lock the setting



Note that the thickness of the cover sheet is an important factor for you to make a good spine. Use only the suitable thickness of the cover sheet associated with the appropriate glue-meter position to make a good book.

4.4.2 Replenishing Glue Tank

CAUTION: Great care must be taken when handling hot molten glue.
Be sure not to place an excessive amount of glue in the tank at one time. Keep it at such a level that the glue will not go over the redline in the tank while the application drum is rotating. This will prevent glue from spilling out of the tank

Glue Replacement

1. Warm up the DB-280 as described in the STARTUP section on page 5.

2. Make sure the draining tray is warped by Aluminum foil and positioned underneath the glue tank so that the tank drains into it.

3. Use the 6 mm Allen wrench to loosen (Counter Clockwise) the glue drain Allen screw, which is located on top of the glue tank.
   Do not attempt to remove the draining tray until the glue cools down.

4. Close (Clockwise) the glue drain Allen screw when the glue stops flowing.

5. Add new glue to the glue tank. Be sure to keep the glue level not going over the red line.

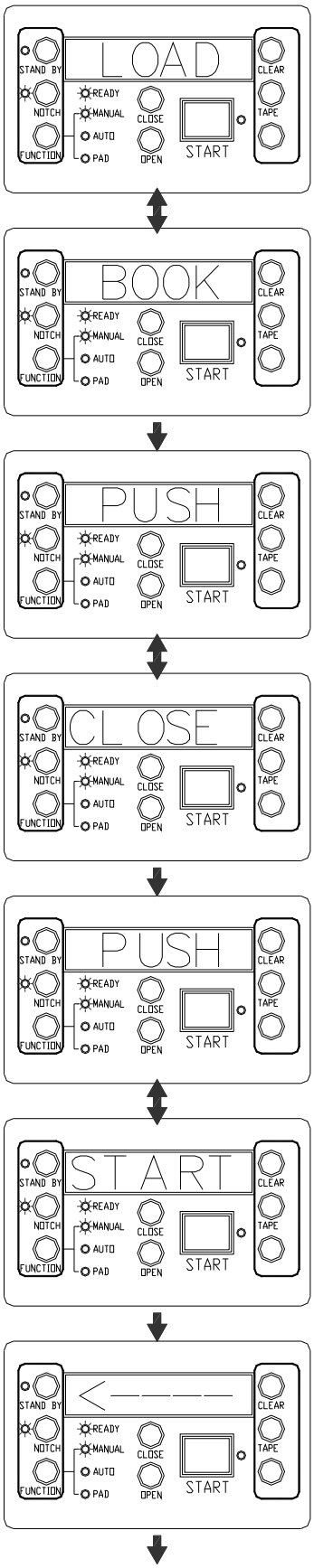
6. Remove the glue drain tray and discard the cold drained glue.

Note that it's not necessary to drain the glue frequently if the machine is used constantly under normal working conditions. However, in case the glue has been left unused for a long period of time with the unit in the "ON" position, and the quality is found to be unacceptable, use the glue replacement procedures or call your authorized dealer.

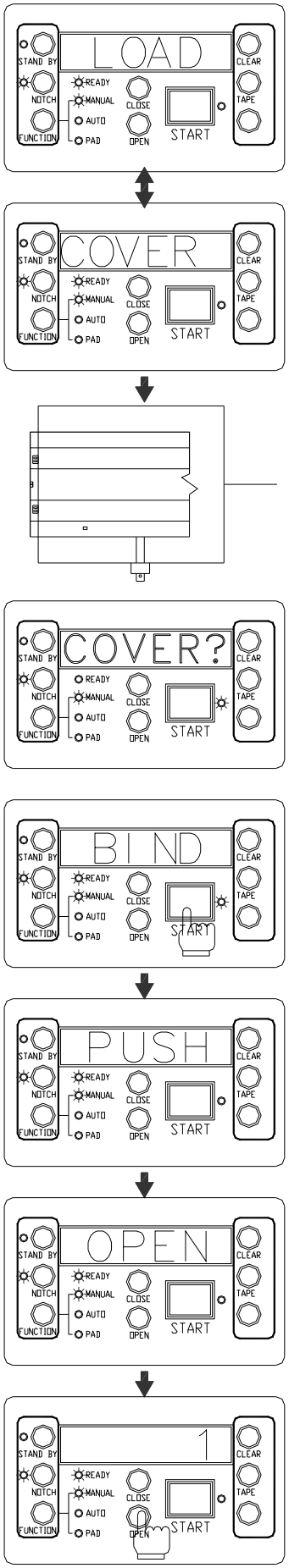
4.4.3 Manual Mode

After the “STARTUP” procedures, the DB-280 will automatically set itself MANUAL operation and flashing "LOAD BOOK" display. Note that the “NOTCH” LED is ON.

1	(1) Press the “OPEN” button and place the book block inside the clamps. Be sure to follow the label instructions on the clamp to load the book block to the RIGHT of the red line, then slide the book block to the far LEFT of the clamps and you will see the flashing "PUSH CLOSE" display. Step 1: Load book to the RIGHT of the red line. Step 2: Slide the book to The far LEFT.
	(2) Then press the “CLOSE” button to clamp down the book block and you will see the flashing "PUSH START" display.
	Note: In case you need to adjust the book block after you have closed the clamps, you can press the "OPEN" button twice to release it. The LED display will show "PUSH CLOSE". After you have adjusted the book block, you have to press "CLOSE" button until the clamps close. Then you will see the flashing "PUSH START" display again.
	(3) Press the “START” button. The LED display of control panel will show a “←” sign and the clamp station will move over the notching station for notching.



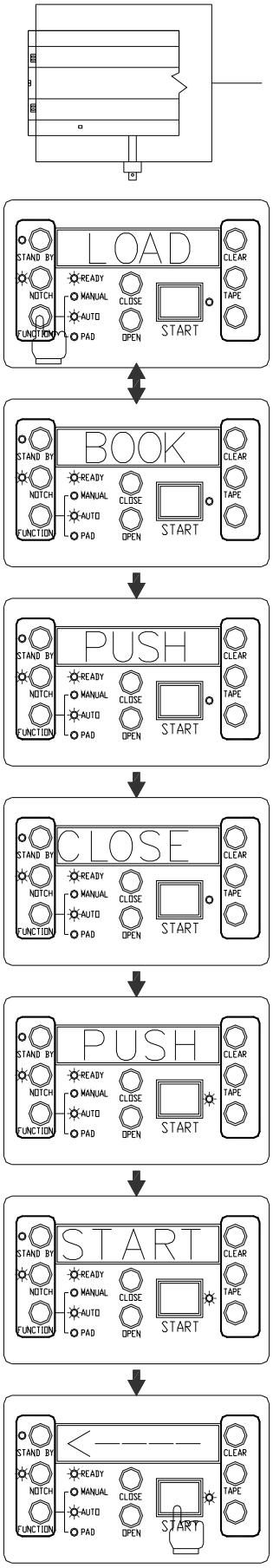
2	After the first notching process, the clamp station will remain to the left side of DB-280 and the LED display of the control panel will display and flash "LOAD COVER".
3	Center the cover sheet and adjust the side guide: Measure the width of the book plus half the thickness of the spine. Then set side guide accordingly.
4	Place the cover on the nipping station, the “START” LED will be lit and flashing "PUSH START". Then press the “START” button to move the clamp station over the nipping station starting the binding process for the book block and cover sheet. **Note:** If you accidentally remove or drop the cover sheet during the clamping station returning to the nipping station, the control panel will show “COVER?”. At this moment, you have to place the cover on the nipping station and press "START" button to resume the process.
5	When the display indicates “PUSH OPEN”, press the “OPEN” button to open the clamps. Then, remove the finished book from the right end of the clamp station. Having completed one bound book, the LED display of control panel will count once for the total binding amount as shown. Then the control panel will display and flash "LOAD BOOK" for binding next book.
6	Repeat step 1 to 5 for more books in “MANUAL” operation.



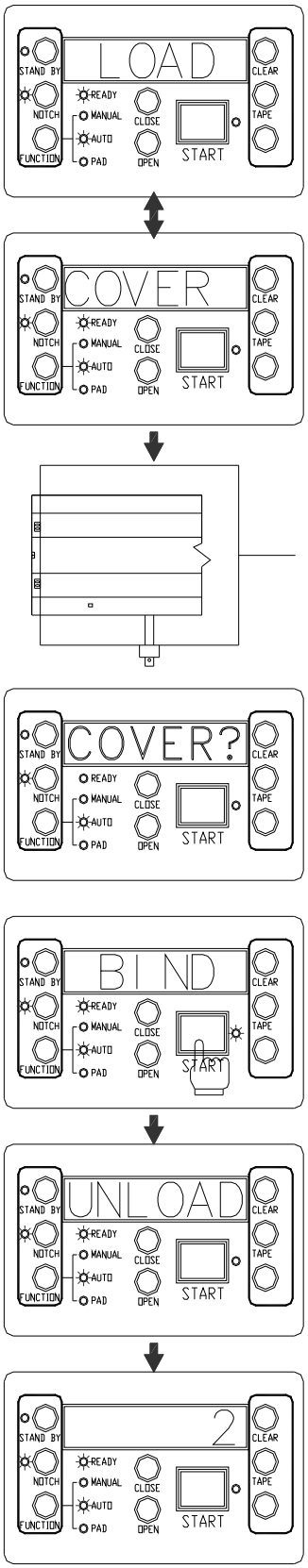
4.4.4 Auto Mode

Note: All books done in this mode must be same thickness.

1	In the MANUAL mode, make one book. Centering the cover to the centered point and adjust the side guide.
2	Press “FUNCTION” button to switch to “AUTO” operation. The “AUTO” LED will be lit and display flashing "LOAD BOOK" as shown. **Note:** The “NOTCH” LED is ON. Step 1: Load book to the RIGHT of the red line. Step 2: Slide the book to The far LEFT.
3	(1) Press the “OPEN” button. Be sure to follow the label instructions on the clamp to load the book block to the RIGHT of the red line, then slide the book block to the far LEFT of the clamps and you will see the flashing "PUSH CLOSE" display. (2) Then press the “CLOSE” button to clamp down the book block and you will see the flashing "PUSH START" display. **Note:** In case you need to adjust the book block after you have closed the clamps, you can press the "OPEN" button twice to release it. The LED display will show "PUSH CLOSE". After you have adjusted the book block, you have to press "CLOSE" button until the clamps close. Then you will see the flashing "PUSH START" display again. (3) Press the “START” button. The LED DISPLAY of control panel will show the “←” sign. The clamp station will move to the left side of DB-280 and will remain there.



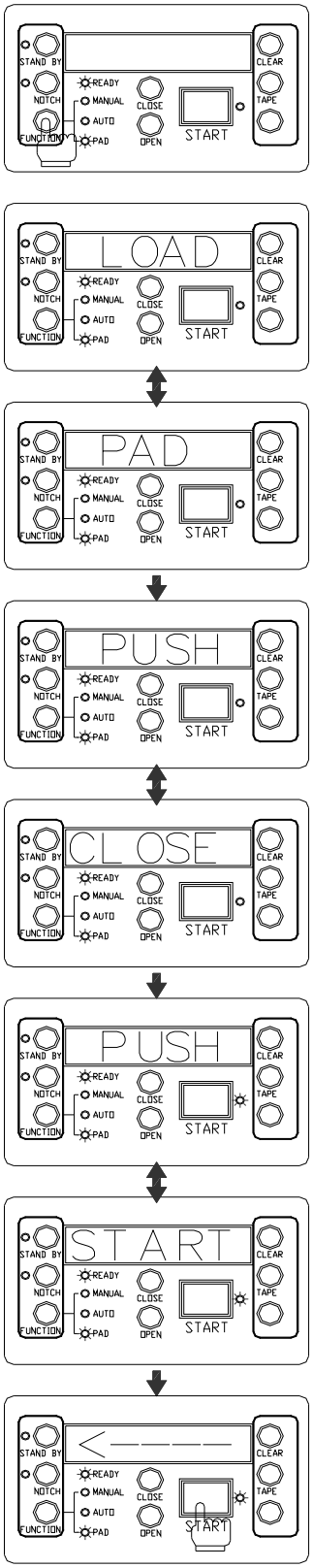
4	Place the cover sheet onto the nipping station when the display flashing "LOAD COVER". The clamp station will automatically move back to the position above the nipping station and start the binding process for the book block and cover sheet. **Note:** If you accidentally remove or drop the cover sheet during the clamping station return to the nipping station, the control panel will show “COVER?”. At this moment, you have to place the cover on the nipping station and press "START" button to recover the process. Having completed one bound book, the clamp will automatically open and display "UNLOAD" so that you can remove the finished book from the right end. Meanwhile, the LED display of control panel will count once for the total binding amount as shown. The DB-280 will flash "LOAD BOOK" display.
5	Place the same thickness of book block onto the clamp as the label instructions on the clamp. The clamp station will automatically clamp down the book block and move to the left. Repeat step 5 to 4 for more books in “AUTO” operation.



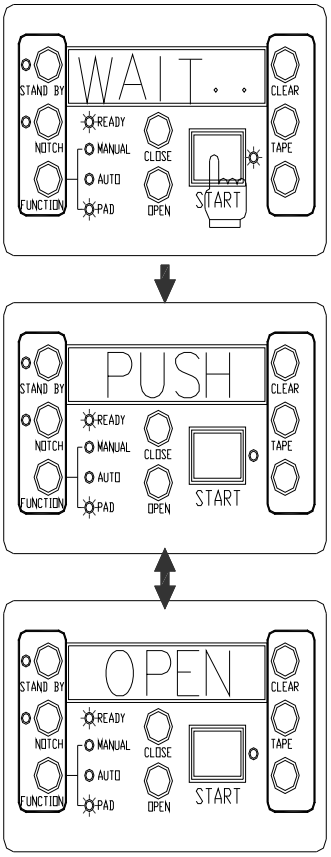
4.4.5 PADDING MODE:

"PAD" is one of the DB-280 operations that apply to special binding applications such as binding without cover sheet.

1	Press "FUNCTION" button to switch to "PAD" operation. The "PAD" LED will be lit and display flashing "LOAD PAD" as shown. **Note:** The "NOTCH" LED is normally OFF. But you can press "NOTCH" button to actuate it, if desired.
2	(1) Press the "OPEN" button. Be sure to follow the label instructions on the clamp To load the pad block to the RIGHT of the red line, then slide the pad block to the far LEFT of the clamps and you will see the flashing "PUSH CLOSE" display. Step 1: Load book to the RIGHT of the red line. Step 2: Slide the book to The far LEFT. (2) Then press the "CLOSE" button to clamp down the pad block and you will see the flashing "PUSH START" display. **Note:** In case you need to adjust the pad block after you have closed the clamps, you can press the "OPEN" button twice to release it. The LED display will show "PUSH CLOSE". After you have adjusted the pad block, you have to press "CLOSE" button until the clamps close. Then you will see the flashing "PUSH START" display again.
3	(1) Press the "START" button. The LED display of control panel will show a "←" sign and the clamp station will move over the notching station and return to clamp station.



	(2) Having moved to the left position of DB-280, the clamp station will automatically move back to the right position and display "WAIT..". (4) Wait for a few seconds until the LED display of control panel displays “PUSH OPEN” as shown.
4	Then press the “OPEN” button to open the clamp so that you can withdraw the bound pad block. Meanwhile, the LED display of control panel will count once for the total binding amount. Then the control panel will display and flash "LOAD PAD" for padding next pad. **Note:** If glue is too thick on spine, adjust thickness in accordance with (G) Glue Adjustment.
5	Repeat step 2 to 4 for more books in “PAD” operation.

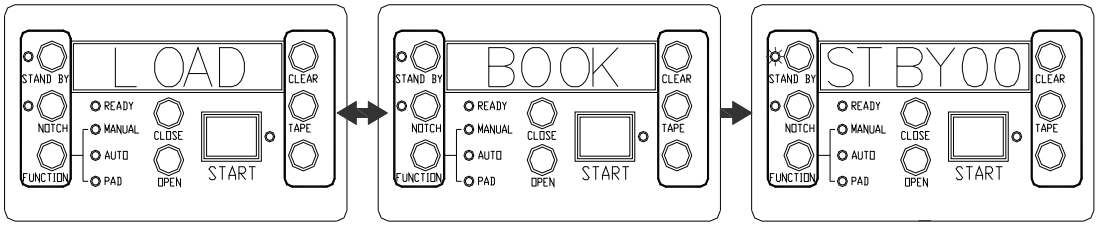


4.4.6 STANDBY MODE

Press “STANDBY” button, the DB-280 will temporarily lower the temperature of glue tank so it won’t burn the glue when the machine is not operated. The LED displays "STBY00" as shown below. Where "00" is the timer display for the duration of the standby period.

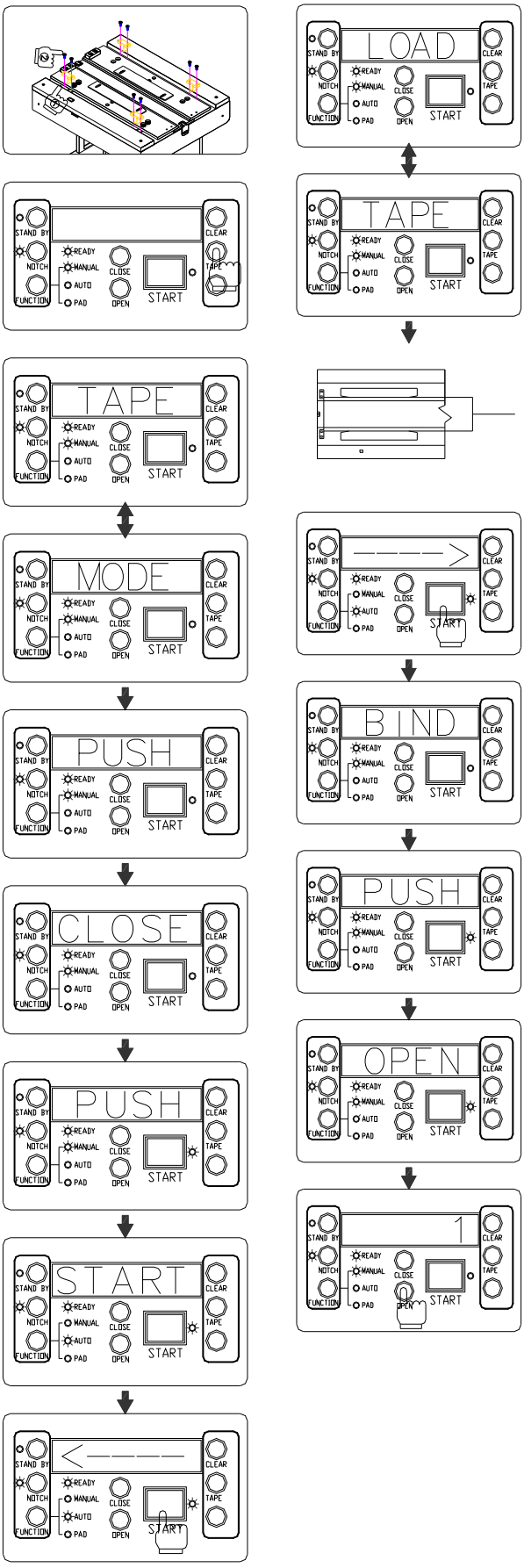
Press “STANDBY” button again when the “STANDBY” LED is on, the DB-280 will reheat the glue tank to the working temperature, then the “READY” LED will be lit and waiting for your desired operation.

Note that you have to wait a few minutes when LED displays "WARM00" status. The glue tank of DB-280 will be reheated, then the control panel will display and flash "LOAD BOOK" after "HOT" status.



4.4.7 TAPE MODE

1	BEFORE USING TAPE MODE INSTALL FOUR OPTIONAL BLOCK PARTS.
2	Press “TAPE” button，LED Display “TAPE” “MODE"instead of ”LOAD”“BOOK” After clamp station goes to left，LED display shows ”LOAD” “TAPE” Press “START” after putting tape, book go back right side then finish the tape mode ATTENTION： It’s same operation in manual or auto mode，please put tape in right postion then press “START”
3	TR1 SETTING Press “START” and “TAPE” together，set TR1 only. This function is available in manual, auto and pad mode. The Nipping timer default 4 sec. TR1 range is 2.0-10sec.

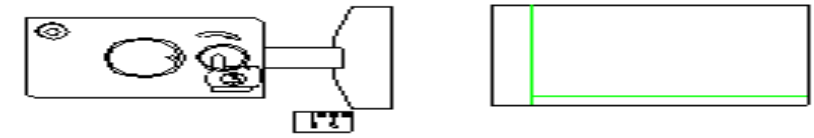


4.4.8 CASING UNIT CONTROL

The casing unit is used for adjusting the distance between book sheets and hard cover, adjusting range 0~10mm Tuning angle 0~180degrees

Release the M4 screw first, after adjusting tight the M4 screw.

The hard cover side is align with the book sheet in normal

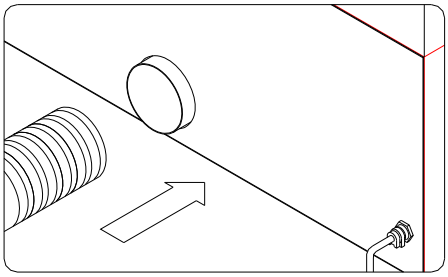


After adjusting casing unit, there is a distance between hard cover and book sheets.

4.4.9 VACUUM DUST REMOVAL SYSTEM

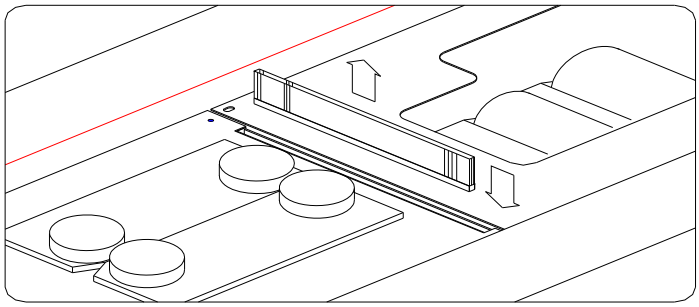
When blade cutting，it brings paper dust, so use vacuum dust removal system to clean.

The vacuum pipe size :4”



4.4.10 THE BRUSH

ATTENTION : **DO NOT PUT HANDS CLOSE TO GLUE TANK**

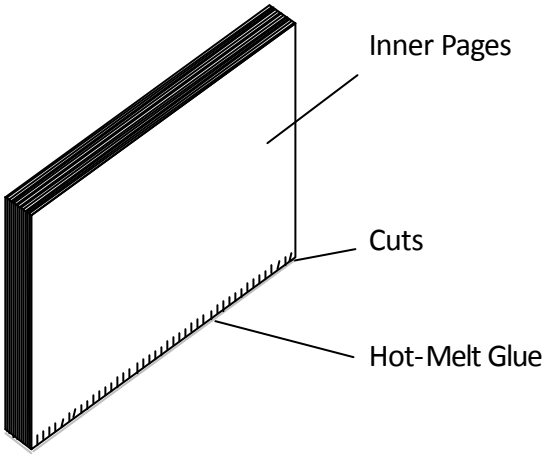


4.5 Adjustment of the Machine/Components

4.5.1 Notching Station

Function

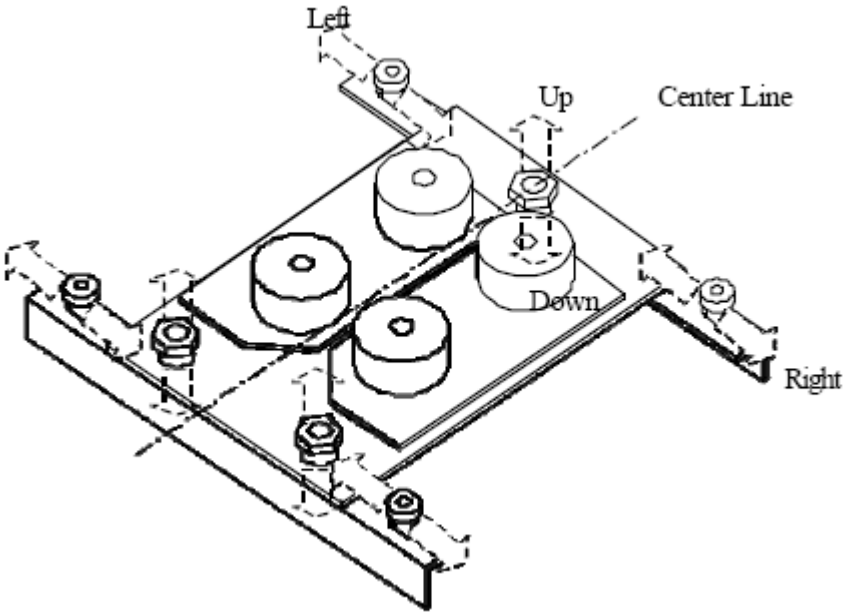
The purpose of notching is to enhance the solidification of the bookbinding. The notching blade makes numerous cuts on the spine of the book so that the melted glue can penetrate the binding area.



Adjustment

In order to get appropriate depth of the cuts and the precision of the center path for clamp station, the notching station can be adjusted to the up, down, right, and left positions as shown. Note that notching surface should be adjusted evenly on both sides to prevent tilting the notching surface. Otherwise, the cuts of the book will have one side deeper than the other. The standard depths of the cuts are 1 mm evenly on the spine of the book.

You also can lift up the notching station to gain the depth of the cuts when the blade has been worn out a little bit. Or you have to change the blade.



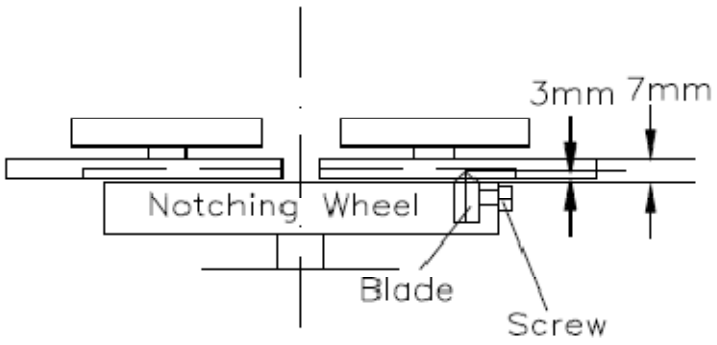
Changing the blade

1. Open one side of the notching station

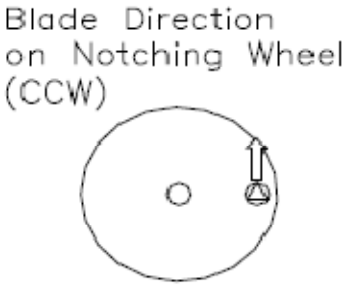
2. Loosen the blade screw and remove the old blade

3. Install the new blade as shown, then set the height of the blade about 3mm above the surface of notching wheel

4. Tighten the blade screw



Side View

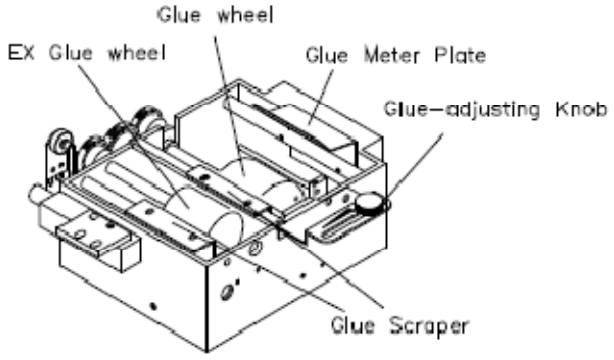


Top View

4.5.2 Glue Tank

Function

Providing a layer of melted glue on the spine of the book so that cover and pages can be bound together . The glue scraper of glue tank controls the quantity of the melted glue on the glue drum while the glue meter controls the thickness of melted glue that is applied to the spine



Adjustment

- **Adjusting the gap for the glue meter:**

1.) Set the glue-adjusting knob to the left (MIN) position

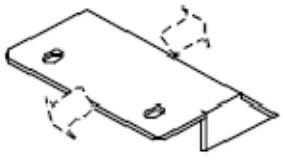
2.) Use a ruler from the surface of the nipping station across the glue tank as shown on the following page. The ruler should touch the glue meter. Then measure the distance between the ruler and the peak of glue drum. Note that the standard gap between the ruler and the peak of glue drum is 2 to 3 mm.

- **Adjusting the gap for the glue scraper:**

1.) Loosen the two screws on the glue scraper.

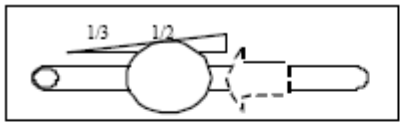
2.) Measure the distance between glue scraper and the glue drum as shown. Note that the standard gap between glue scraper and the glue drum is 2 mm.

3.) Tighten the screws.

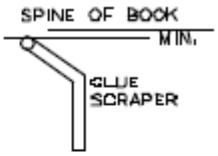


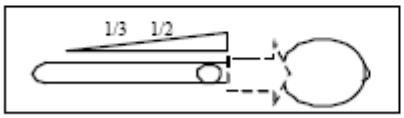
• **Setting the glue -adjusting knob to the appropriate positions:**

Normally, the indicator is set at 1/3 to 1/2 of the arrow mark.

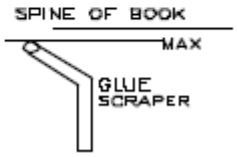


MIN MAX



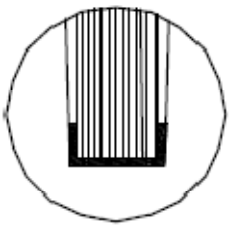


MIN MAX



• **Controlling the quality of a book by means of the glue meter: Note that the thickness of the cover sheet is an important factor for you to make a good spine. Use only the appropriate thic kness of cover sheet to make a good book.**

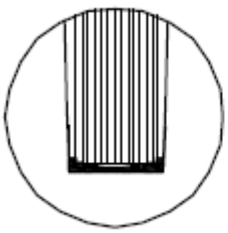
1.) Decrease the melted glue when:



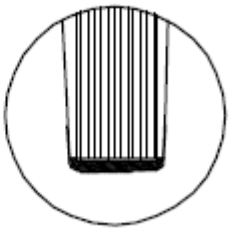
Too much glue on both sides OR

Nail Head

2.) Increase the melted glue when:



Hollow Middle OR



Round

4.5.3 Nipping Station

Function

Provided a flat surface for the book block, when there are being placed into the clamp station. It also provides the nipping force to form the cover around the spine of the book

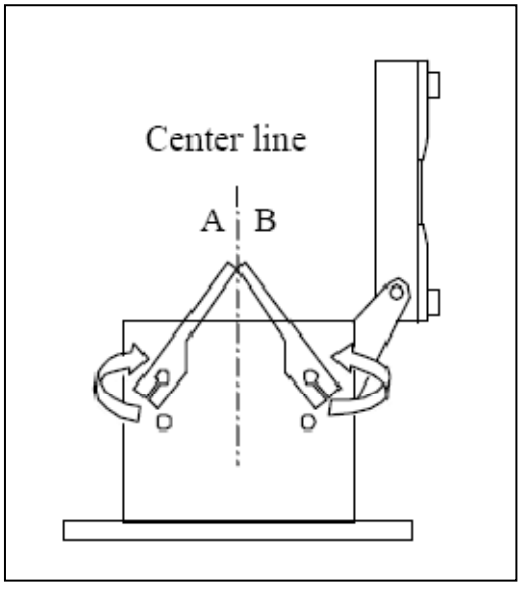
Adjustment

1.) During the nipping process, the nipping plates must exert an even pressure on the cover in order to form a spine

2.) The nipping swing arms provide this pressure

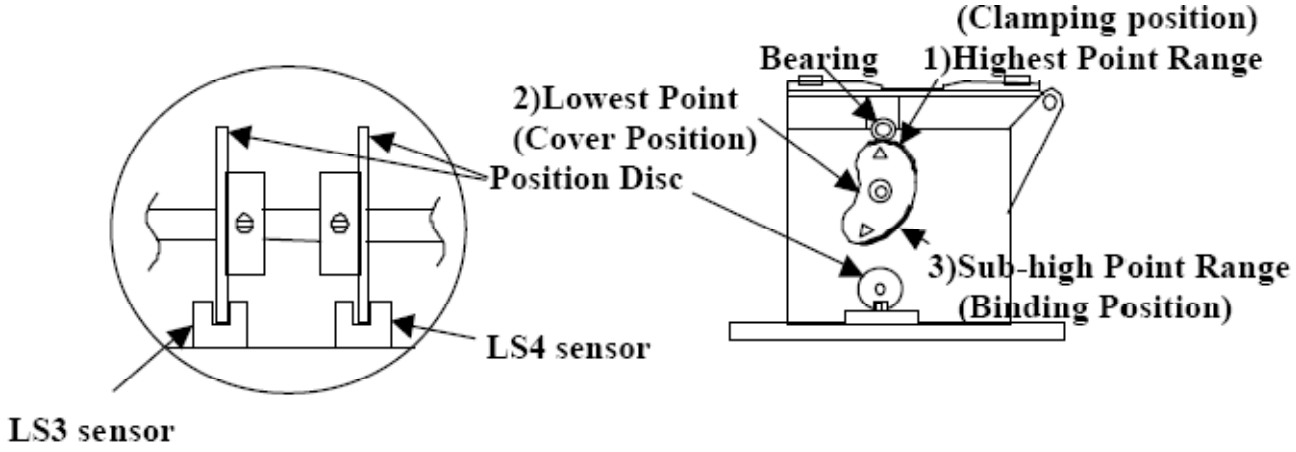
Open the nipping station, then turn the swing arms counter-clockwise to the position shown. The swing arms must touch together at the centerline as shown.

If not, they need to be adjusted.

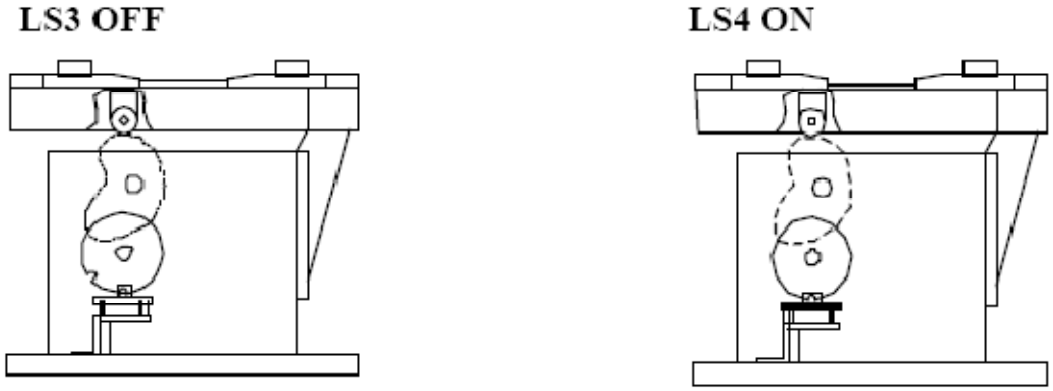


• **Position change on the position disc of nipping station**

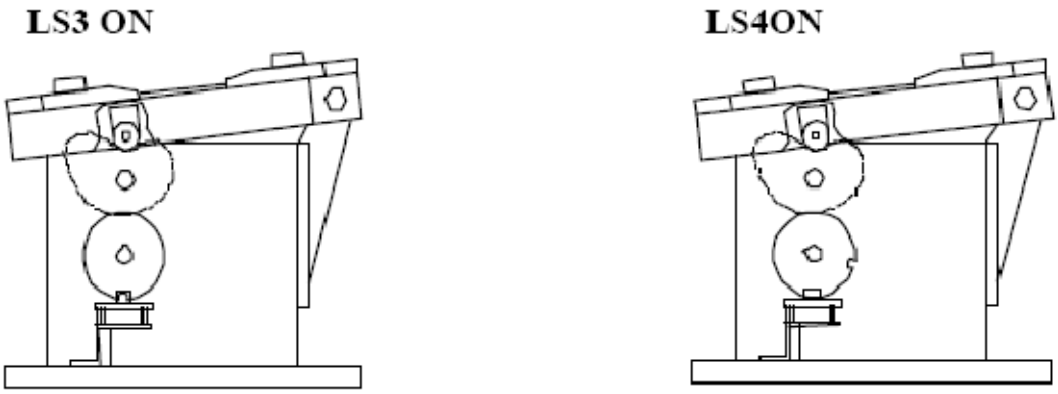
There are three positions of the nipping station for executing the clamping, the cover, and the nipping processes. The LED of the sensor (LS3 or LS4) goes on when the notch of position disc travels through the trench of the sensor as shown below:



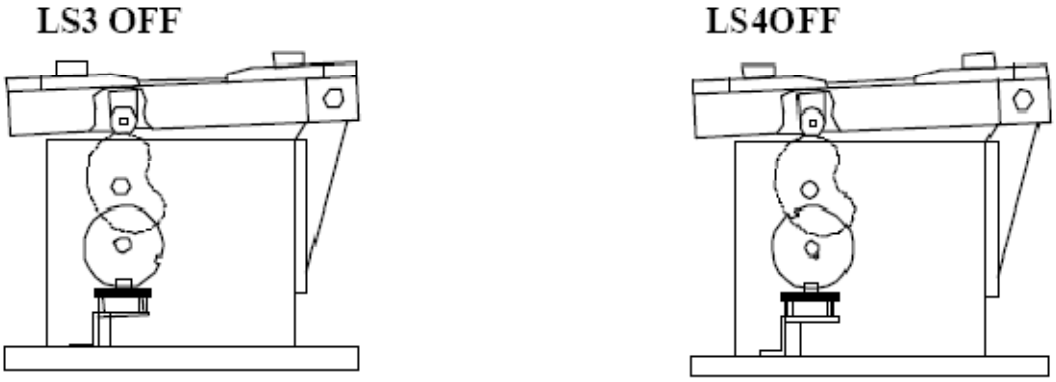
1.) Clamping: when the bearing is at the highest point



2.) Cover: when the bearing is at the lowest point



3.) Nipping: when the bearing is at the sub-high point



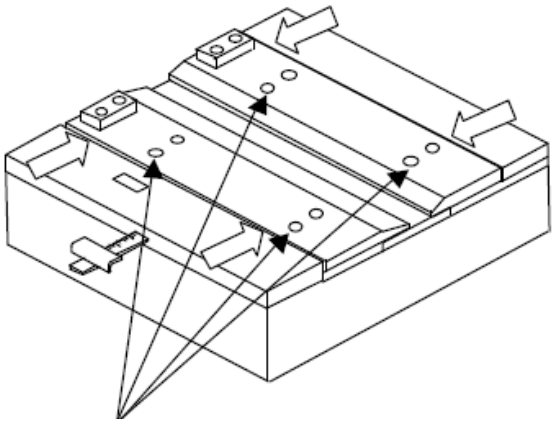
If the spine is not being nipped evenly, adjust the nipping plates as follows:

- **Adjusting on the Nipping Plates**

1.) Push each side of nipping plates to find out which side is too tight.

2.) Then use the nipping plate screws to do the fine adjustment until both sides have the same tension.

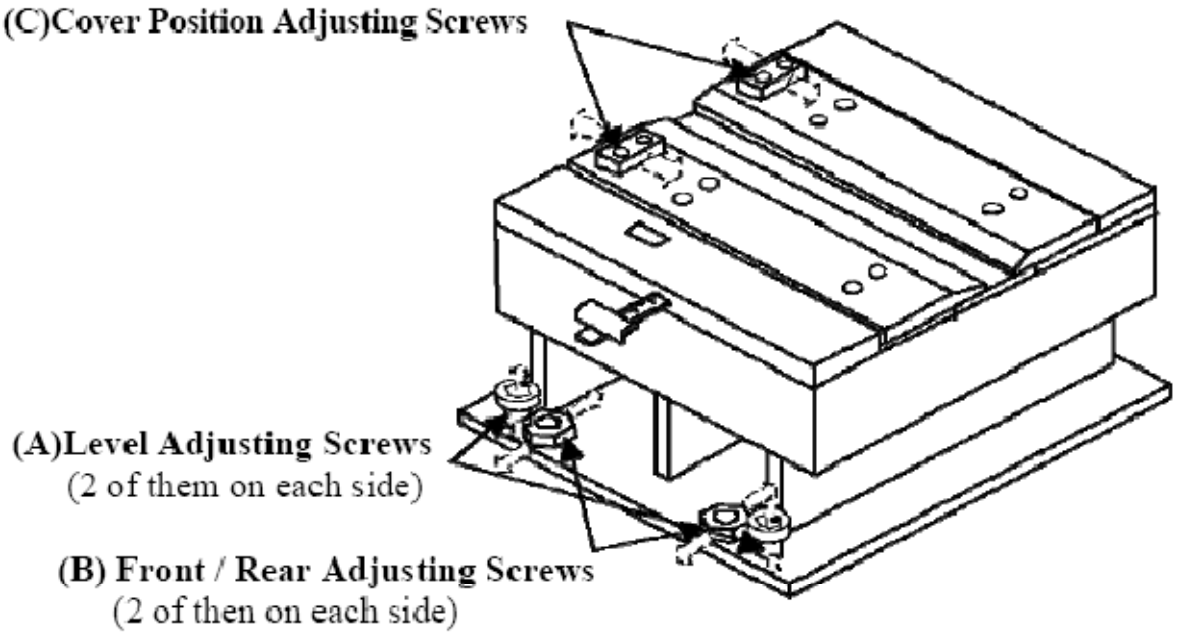
Note that you can use the"MOTOR2" of "TEST2" to verify the nipping plate position before tightening them.



Nipping plate adjustment screws

• **Position Adjustments on Nipping Station**

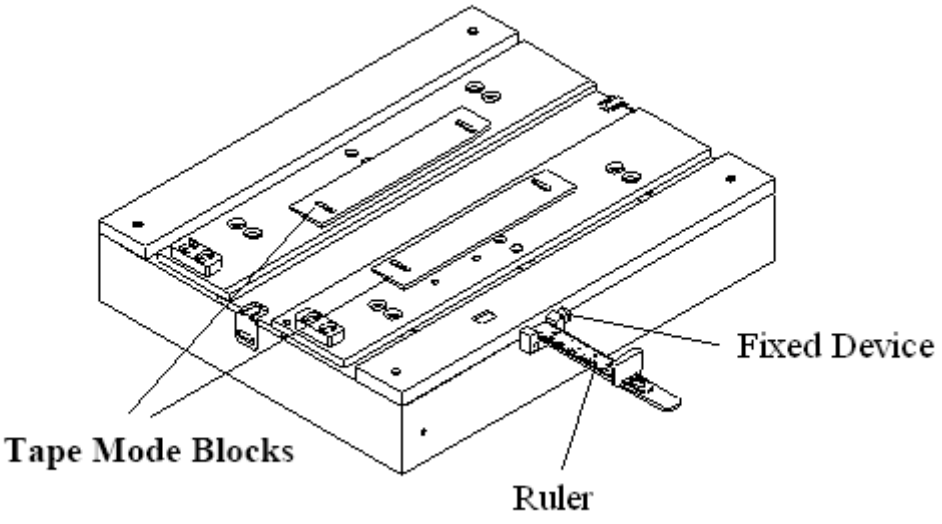
(A) The level of nipping station should be adjusted evenly on the corresponding ends to prevent tilting the nipping station surface, by level adjusting screws. (B) The centerline of the nipping station must match the projected centerline of the clamp station by the front/rear adjusting screws. (C) The position of cover can be adjusted by the cover position adjusting screws, along with the position of LS1.


(C)Cover Position Adjusting Screws
(A)Level Adjusting Screws
(2 of them on each side)
(B) Front / Rear Adjusting Screws
(2 of then on each side)

TAPE MODE BLOCKS Adjustment / Cover Position Fixed ruler

TAPE mode using tape instead of cover blocks adjusting was as the cover center adjusting. Please install blocks first before your adjustment**.**

Cover position fixed ruler can be pulled out to fix your covers position**. Fixed device** can fix the ruler firmly in the place you want.



4.5.4 Clamp Station

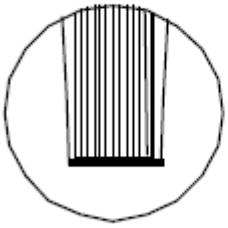
Function

Holding the book block for the notching, gluing, and nipping processes of bookbinding.

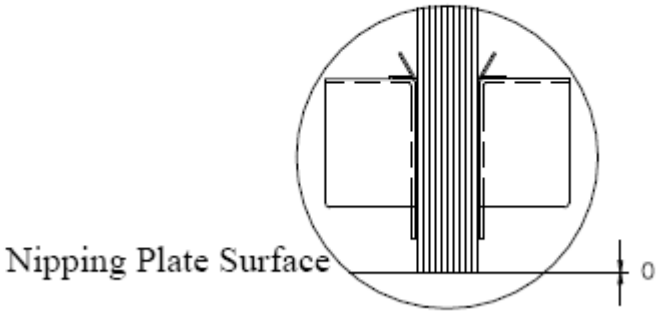
Adjustment

The acceptable spine of a book and the shape of book block after being clamped are shown below. If you find different shapes such as “round”, “hollow” and “nail head” for one end or both ends, remove the clamp covers, then adjust the screws on both clamps.

Stand of Book



Stand Shape of book Block



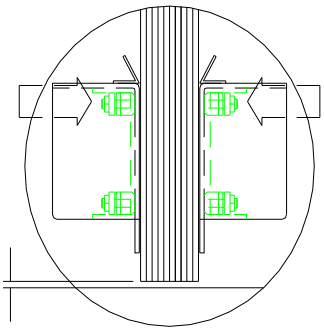
How to adjust

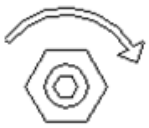
1.) Making book is a top priority (to see where is the machine need to be adjusted):

The priority way of machine’s measurement is making books. We usually make 5mm, 10mm, 15mm, 20mm as well as 30mmof thickness to inspect. however, 20mm is a standard for us to make sure the spine of the book should be good. Because nail head usually happen in thicker books, and round spine usually happen in thinner books.

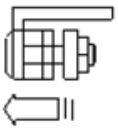
2.) How to adjust the angle/pressure of the clamp plate

If you need to adjust the clamp plate, please refer to following points:



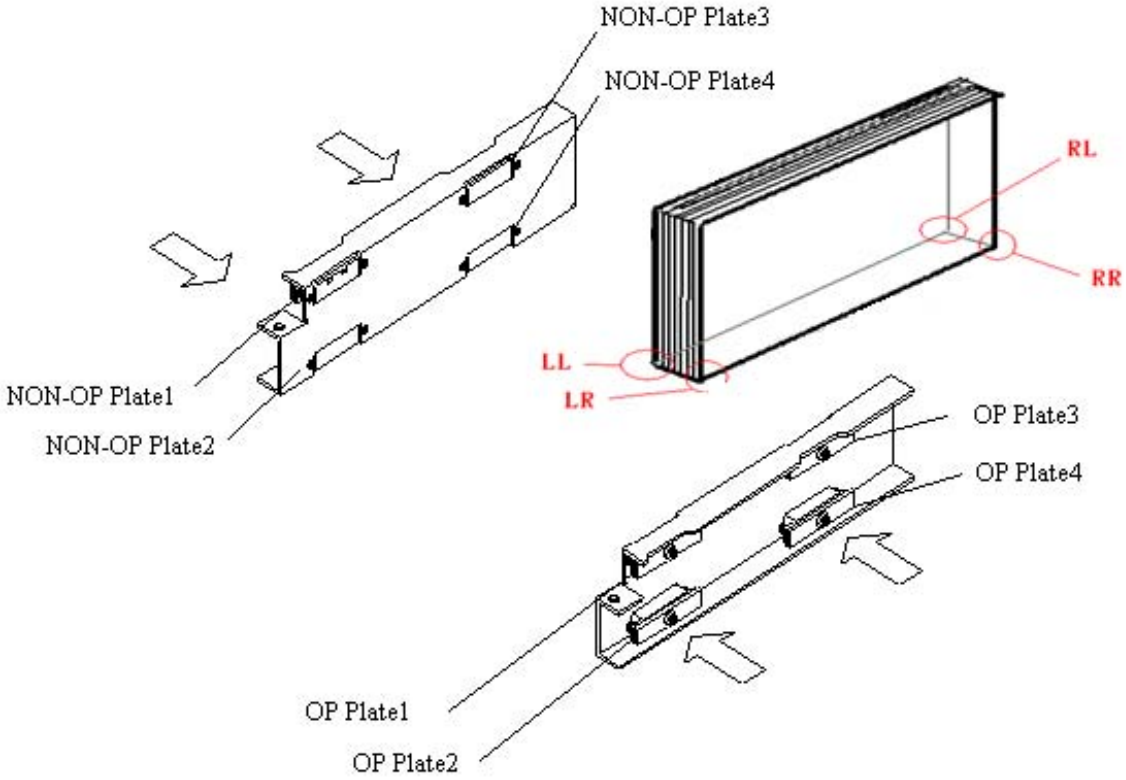


Turm screw clockwise



Increase adjustment

Decrease adjustment



LL and LR corners are nail head: it means that the left spine of the book should be lift up to make the left side of the spine rounder. So you can increase adjustment on both NON-OP Plate1 and OP Plate 1，and making book to see LL and LR corners are ok or not.

LL corner is nail head: it means that the LL corner should be lift up to make the LL corner rounder, So you can increase adjustment on NON-OP Plate 1，, and then making book to see LL corner is ok or not.

LR corner is nail head: it means that the LR corner should be lift up to make the LR corner rounder, So you can increase adjustment on OP Plate 1， making book to see LR corner is ok or not.

RL and RR corners are nail head: it means that the right spine of the book should be lift up to make the right side of the spine rounder. So you can increase adjustment on both NON-OP Plate 3 and OP Plate 3，, and then making book to see RL and RR corners are ok or not.

RL corner is nail head: it means that the RL corner should be lift up to make the RL corner rounder, So you can increase adjustment on NON-OP Plate 3， and then making book to see RL corner is ok or not.

RR corner is nail head: it means that the RR corner should be lift up to make the RR corner rounder, So you can increase adjustment on OP Plate 3， and then making book to see RR corner is ok or not.

All above are nail head situation, if round spine or corner happened, please refer to following point:

LL and LR corners are round: it means that the left spine of the book should be push down to make the left side of the spine to be more right angle. So you can increase adjustment on both NON-OP Plate 2 and OP Plate 2， and then making book to see LL and LR corners are ok or not.

LL corner is round: it means that the LL corner should be push down to make the LL corner to be more right angle, So you can increase adjustment on NON-OP Plate 2，and then making book to see LL corner is ok or not.

LR corner is round: it means that the LR corner should be push down to make the LR corner to be more right angle, So you can increase adjustment on OP Plate 2， and then making book to see LR corner is ok or not.

RL and RR corners are round: please refer to above steps to work on NON-OP Plate 4 and OP Plate 4.
RL corner is round: please refer to above steps to work on NON-OP Plate 4.
RR corner is round: please refer to above steps to work on OP Plate 4.

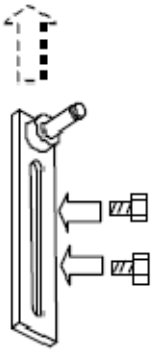
4.5.5 Driving Section

Function

Provides driving power to move and locate the clamp station over the glue drum and notching station, then return it back to the nipping station for covering and binding.

Adjustment

Adjust tensioner to eliminate any slack in chain



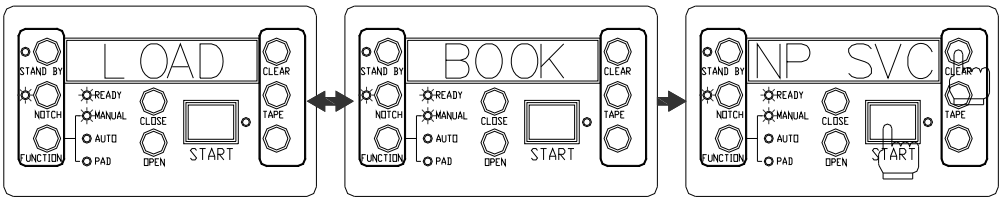
5 Maintenance

5.1 Day/Month/Year Maintenance

Daily Cleaning Procedures

After you have finished using the binder for the day, follow the following steps:

1.Close the clamps while the LED display flashing "LOAD BOOK" or "LOAD PAD".
2.Press "START" and "CLEAR" keys simultaneously. The clamp station will automatically move to the left of the machine and LED display "NP SVC".
3. Clean the residual glue that might be on the nipping plates and plate surfaces.
4. Press the "START" and "CLEAR" keys, the clamp station will return to its home position. Open the clamps to the maximum position. Clean their surfaces and wax them.
5. Turn the DB-280 off.



Three-month period

Depends on how frequency you use the machine, we recommend that you should do the following maintenance at least once during three-month period.

(1) Clamp Station

1. Open the clamps to the maximum position then turn off the power of the machine.
2. Take apart the clamps from the clamp station.
3. Clean the residual glue that might be on the clamps.
4. Install the clamps to the clamp station.
5. Turn on the power of the machine.
6. Clamp some inner pages to see if the clamps have been installed properly. If clamp adjustment need, please refer to A1 section of Appendix for details.

(2) Notching Station

This is a monthly maintenance. However, we recommend that you should use vacuum to clean the paper dust on the notching station when the machine has made 2,000 books.

Warning: You must power off the machine in order to perform the notching blade maintenance.

1. Power off the machine.
2. Remove the notching covers.
3. Use the vacuum to clean up the paper dust.
4. Clean up the residual glue around the notching wheel, rollers and blade.
5. Clean the notching covers, notching blade, and rollers.
6. Check to see if the notching blade has been worn out or broken. If so, replace a new one.
7. Install the notching covers.

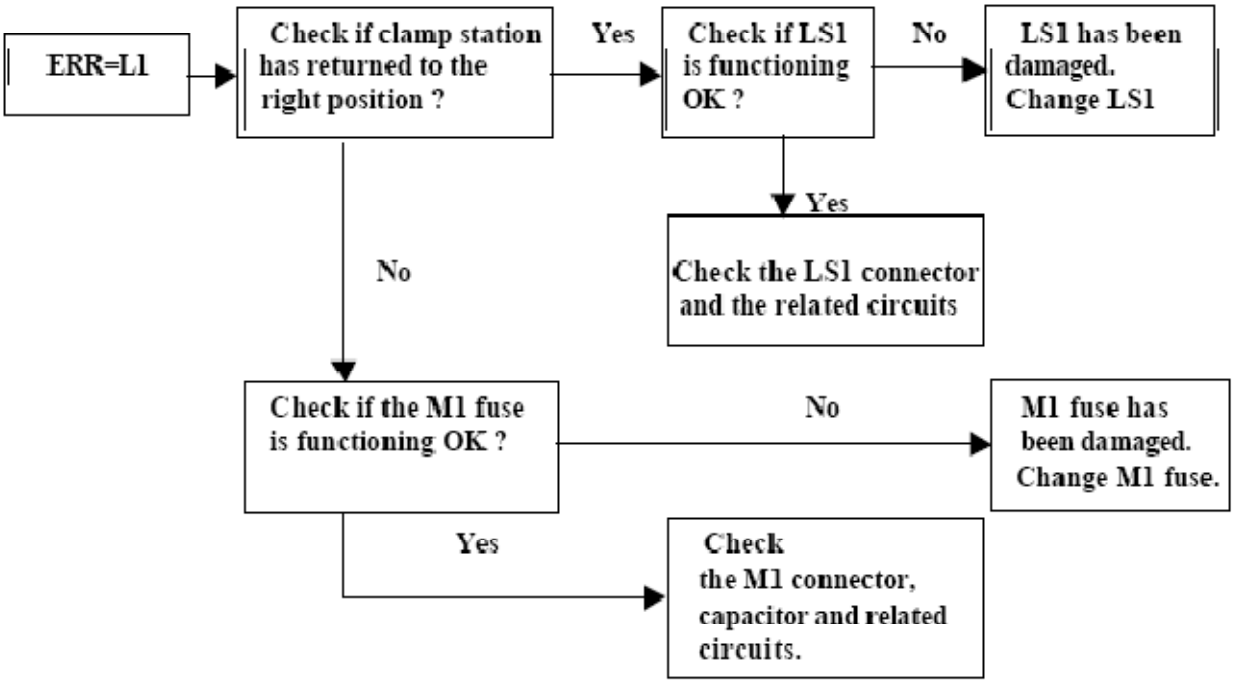
5.2 Lubrication

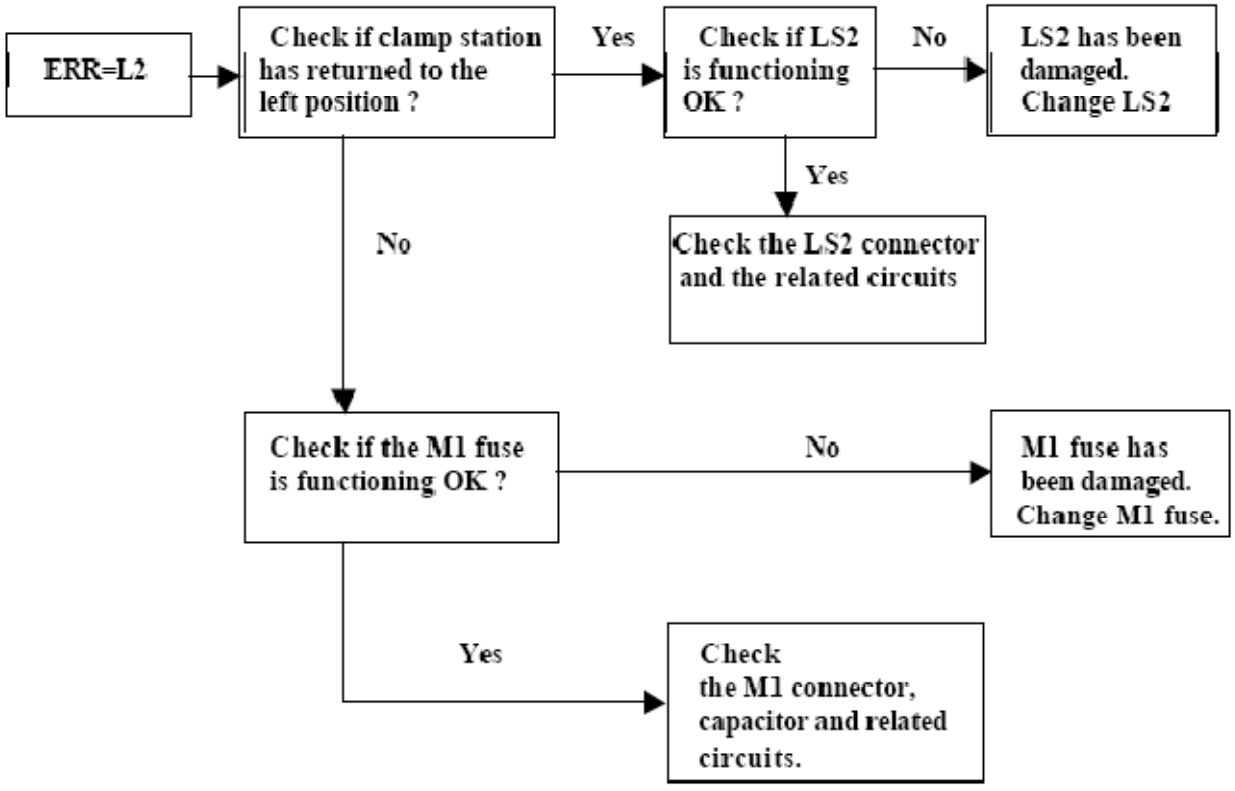
5.1.1 All operating components such as chains, chain sprockets, gears, racks shall be routinely added with lubricating oil or grease.

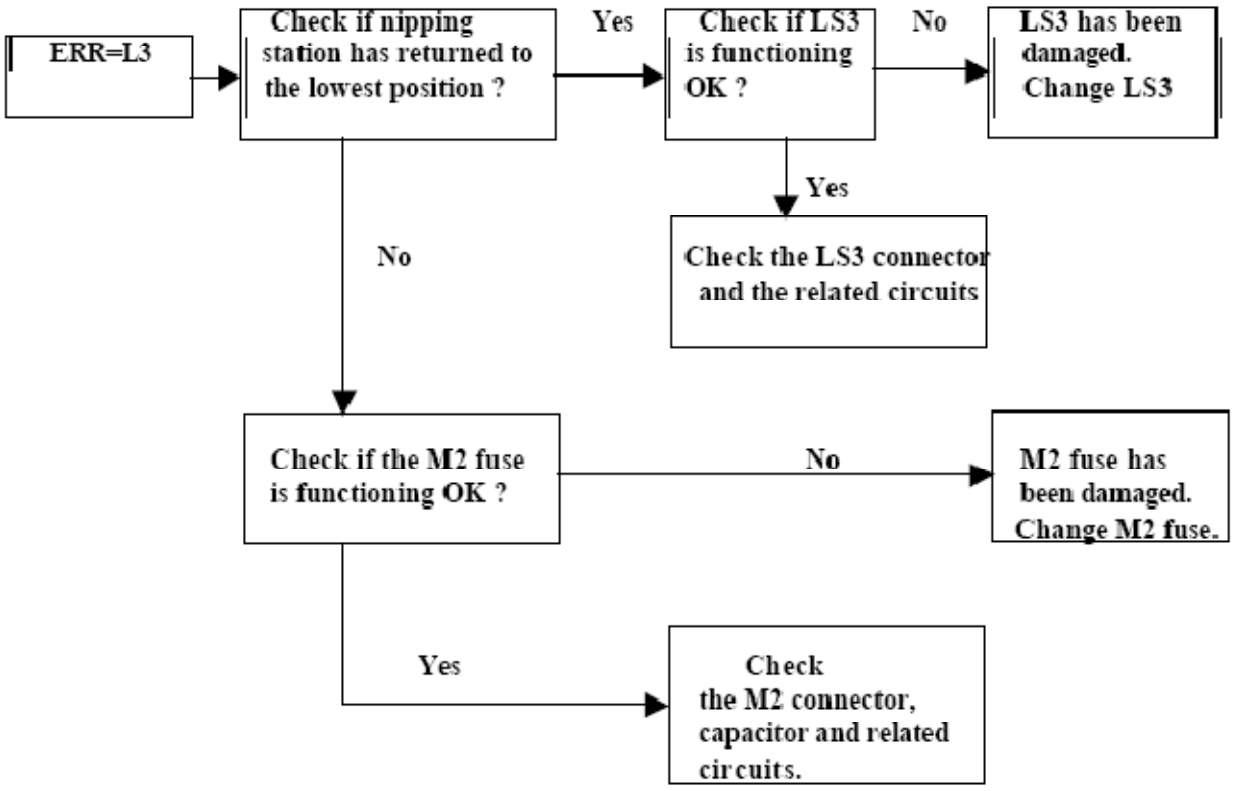
5.2.2 All rotating joints at spindle ends attached with oil cups shall be routinely filled with lube oil.

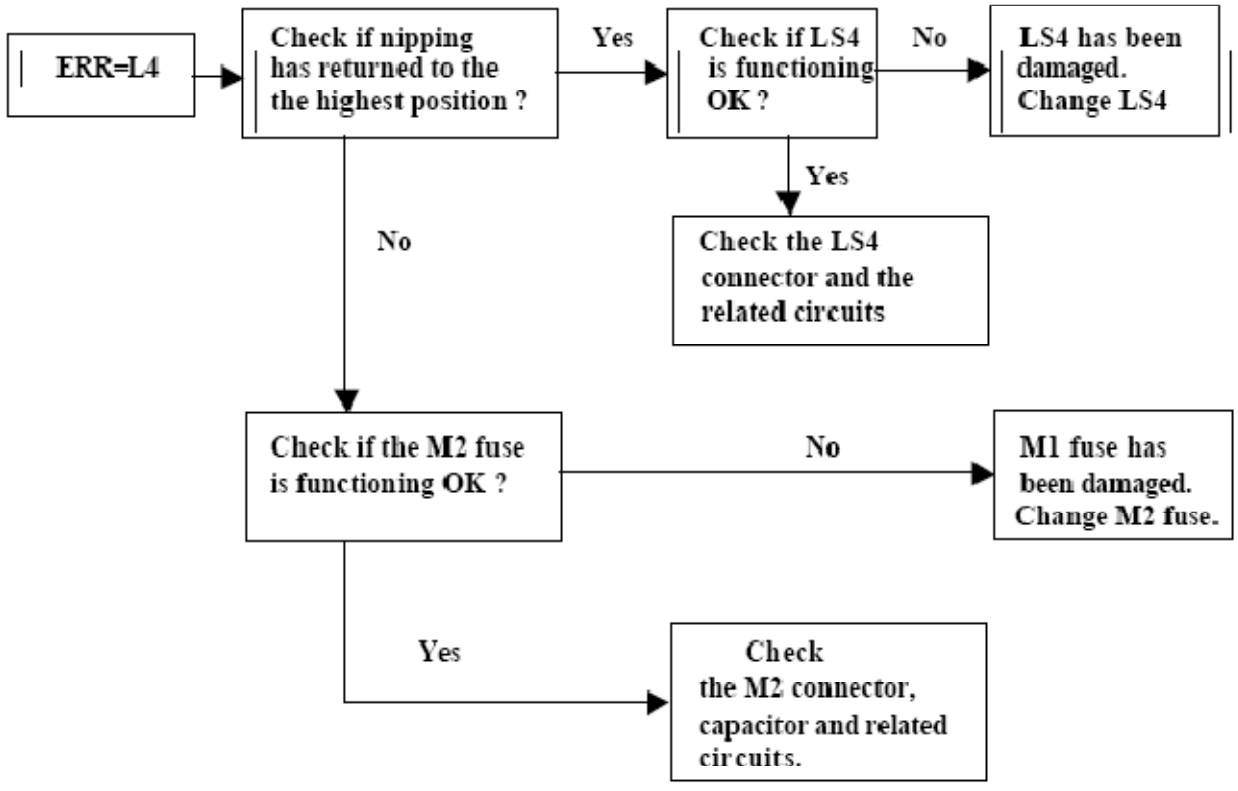
5.3 Trouble Shooting

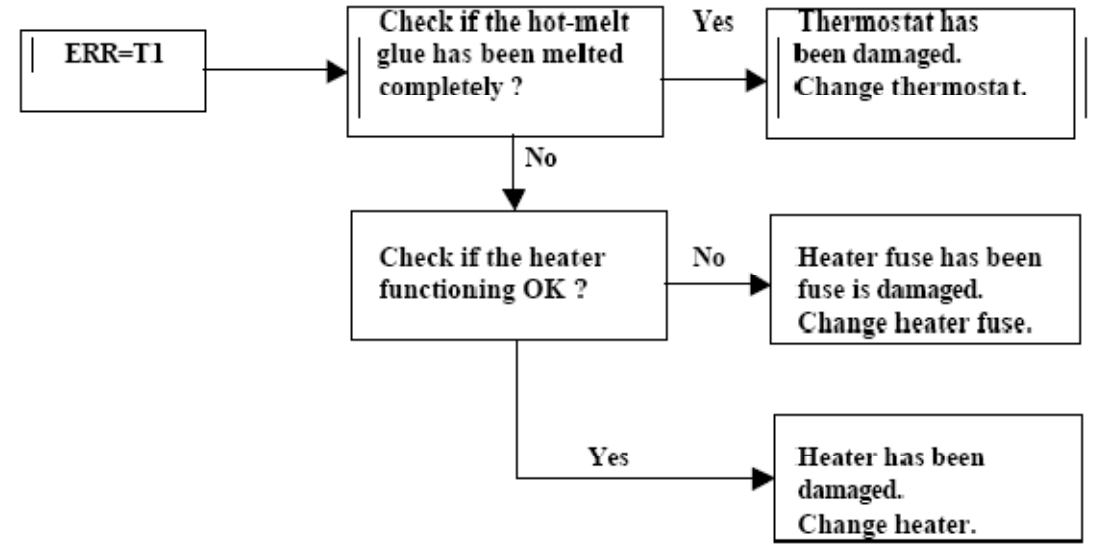
In case, when the control panel display error message, please refer to following step to correct.

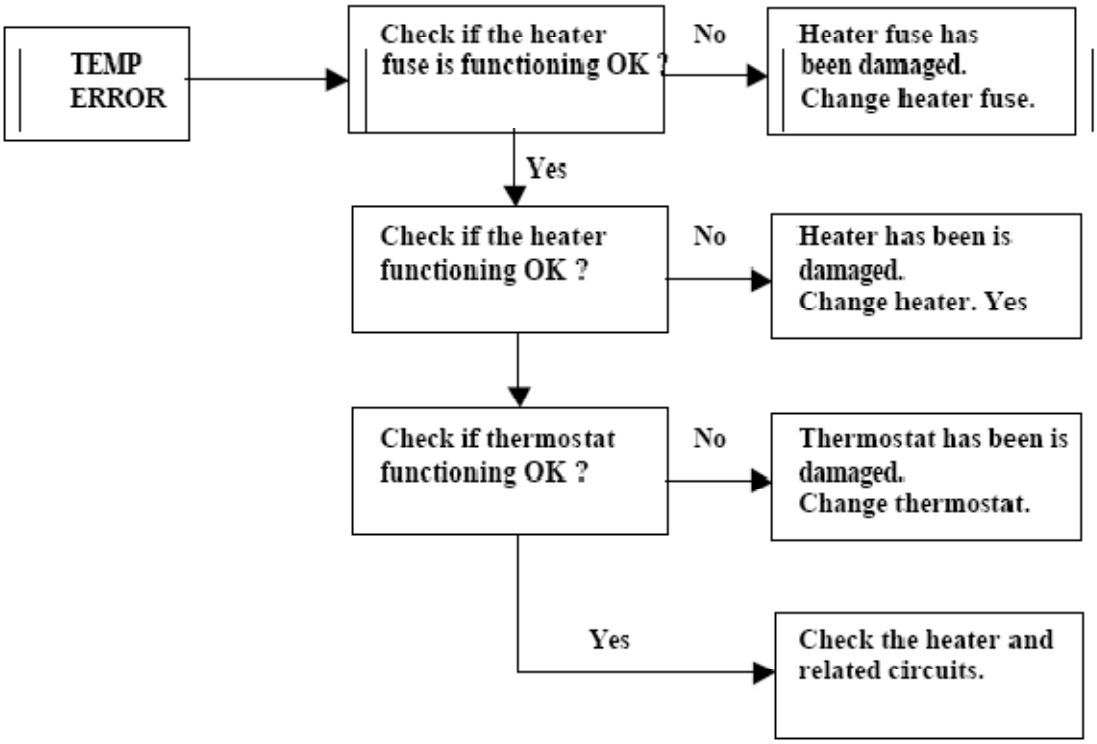

ERR=L1
Check if clamp station has returned to the right position ?
Yes
Check if LS1 is functioning OK ?
No
LS1 has been damaged. Change LS1
Yes
Check the LS1 connector and the related circuits
No
Check if the M1 fuse is functioning OK ?
No
M1 fuse has been damaged. Change M1 fuse.
Yes
Check the M1 connector, capacitor and related circuits.

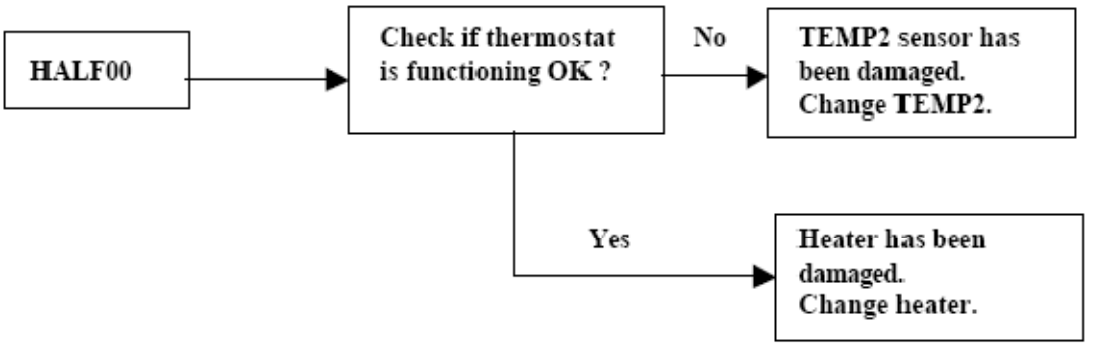

ERR=L2
Check if clamp station has returned to the left position ?
Yes
Check if LS2 is functioning OK ?
No
LS2 has been damaged. Change LS2
Yes
Check the LS2 connector and the related circuits
No
Check if the M1 fuse is functioning OK ?
No
M1 fuse has been damaged. Change M1 fuse.
Yes
Check the M1 connector, capacitor and related circuits.


ERR=L3
Check if nipping station has returned to the lowest position ?
Yes
Check if LS3 is functioning OK ?
No
LS3 has been damaged. Change LS3
Yes
Check the LS3 connector and the related circuits
No
Check if the M2 fuse is functioning OK ?
No
M2 fuse has been damaged. Change M2 fuse.
Yes
Check the M2 connector, capacitor and related circuits.

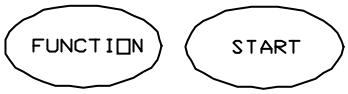

ERR=L4
Check if nipping has returned to the the highest position ?
Yes
Check if LS4 is functioning OK ?
No
LS4 has been damaged. Change LS4
Yes
Check the LS4 connector and the related circuits
No
Check if the M2 fuse is functioning OK ?
No
M1 fuse has been damaged. Change M2 fuse.
Yes
Check the M2 connector, capacitor and related circuits.


ERR=T1
Check if the hot-melt glue has been melted completely ?
Yes
Thermostat has been damaged. Change thermostat.
No
Check if the heater functioning OK ?
No
Heater fuse has been fuse is damaged. Change heater fuse.
Yes
Heater has been damaged. Change heater.


TEMP ERROR
Check if the heater fuse is functioning OK ?
No
Heater fuse has been damaged. Change heater fuse.
Yes
Check if the heater functioning OK ?
No
Heater has been is damaged. Change heater. Yes
Check if thermostat functioning OK ?
No
Thermostat has been is damaged. Change thermostat.
Yes
Check the heater and related circuits.


HALF00
Check if thermostat is functioning OK ?
No
TEMP2 sensor has been damaged. Change TEMP2.
Yes
Heater has been damaged. Change heater.

5.4 Test Of Safety Devices

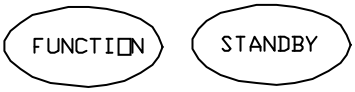


- **TEST1 – Operation Test:**

Press and hold down the “FUNCTION” and “START” buttons, then turn the power on. You should see the “TEST1” in the LED display. After performing the “WARM”, “HOT”, and “S-TEST” processes, the DB-280 will execute the entire operation test procedures as the following order:

Open the clamps ¢ Close the clamps ¢ Move clamp station to pass the notching station / Run the notching wheel ¢ Back to nipping station ¢ Up/Down the nipping station / Close/Open the nipping plates

Note: Test1 is an infinite loop. To return to MANUAL operation, you can stop Test1 by pressing the FUNCTION button when the LED display shows "READY".



- **TEST2 – Module Test:**

Press and hold down the “FUNCTION” and “STANDBY” buttons, then turn the power on. You should see the “TEST2” in the LED display. After performing the “WARM”, “HOT”, and “S-TEST” processes, the DB-280 will display “MOTOR 1” in the LED display. Then you can select the following module tests by pressing “OPEN” or “CLOSE” button to toggle “MOTOR 1”, “MOTOR 2”, “MOTOR 4”, and “MOTOR 6” followed by pressing “START” button to execute.

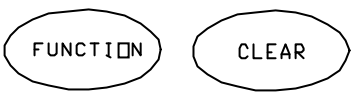
MOTOR 1 (Main motor motion):
Moves clamp station to notching station, then back to nipping station.

MOTOR 2 (Nipping motor motion):
Moves the nipping station surface to the highest point, the sub-high point, and the lowest point and provides the nipping force for nipping plates.

MOTOR 4 (Notching motor motion):
Runs the notching wheel for a few seconds.

MOTOR 6 (Clamp motor motion)
Opens the clamps, then close the clamps.

Note: To return to MANUAL operation, press FUNCTION button when LED display shows "MOTOR1/2/4/6".



- **Displays the total amount of bookbinding:**

Press and hold down the “FUNCTION” and “CLEAR” buttons, then turn the power on. You should see the total amount of bookbinding in the LED display.

6 Electric

6.1 Safety Rules For Electrical Control System

1.) Only personnel who are properly trained and have adequate knowledge and skill should undertake all electrical/electronic troubleshooting and repair.

2.) Do not alter or bypass protective interlocks.

3.) Before starting, read and observe all warning labels.

4.) When trouble shooting make sure the power source has been disconnected and main switch has been locked.

5.) Take extra precautions in damp areas to protect you from accidental grounding.

6.) Before applying power to any equipment it must be established, without a doubt, that all persons are clear.

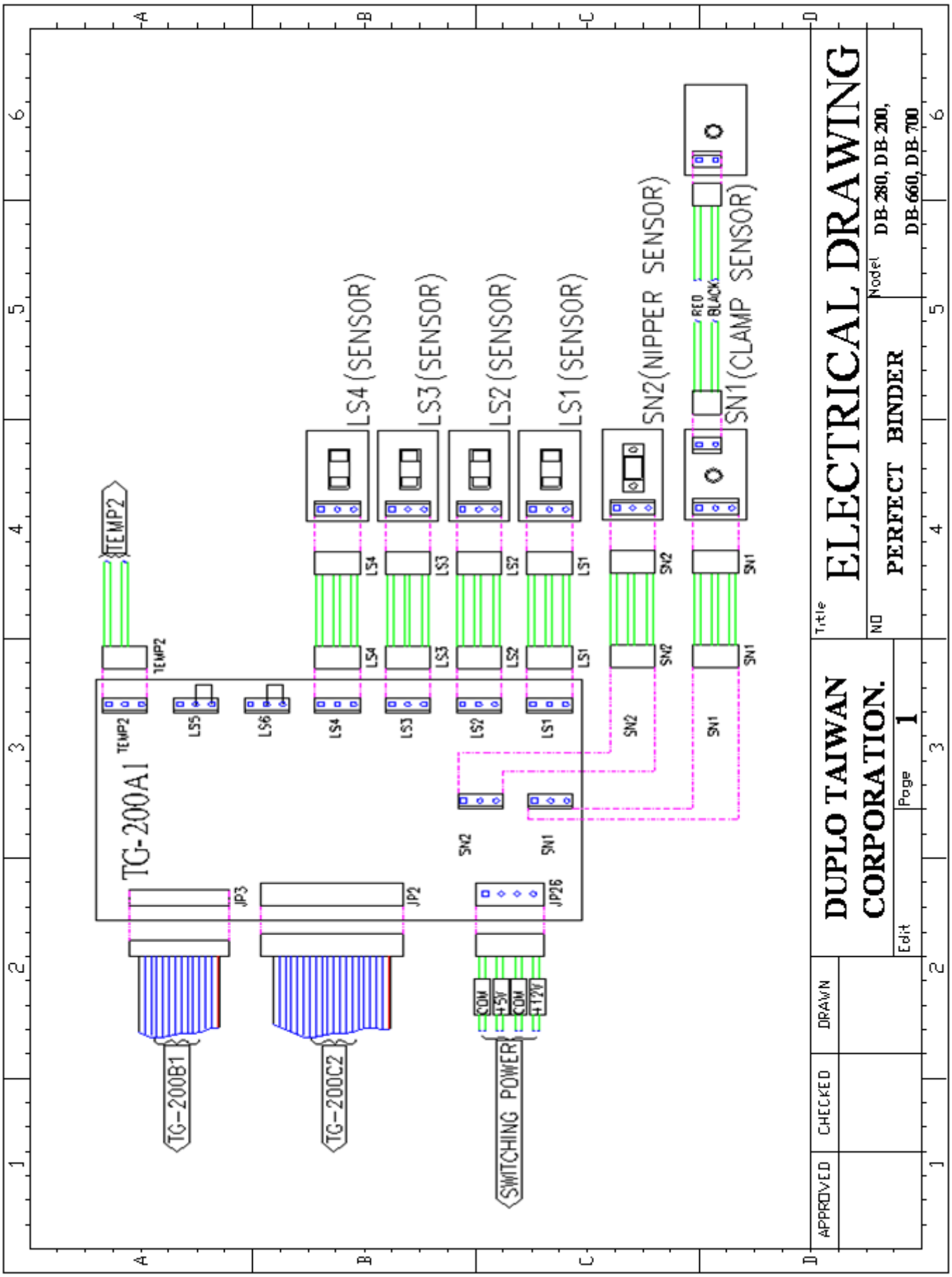
7.) Do not open the electrical control panel unless it is necessary to check the electrical equipment.

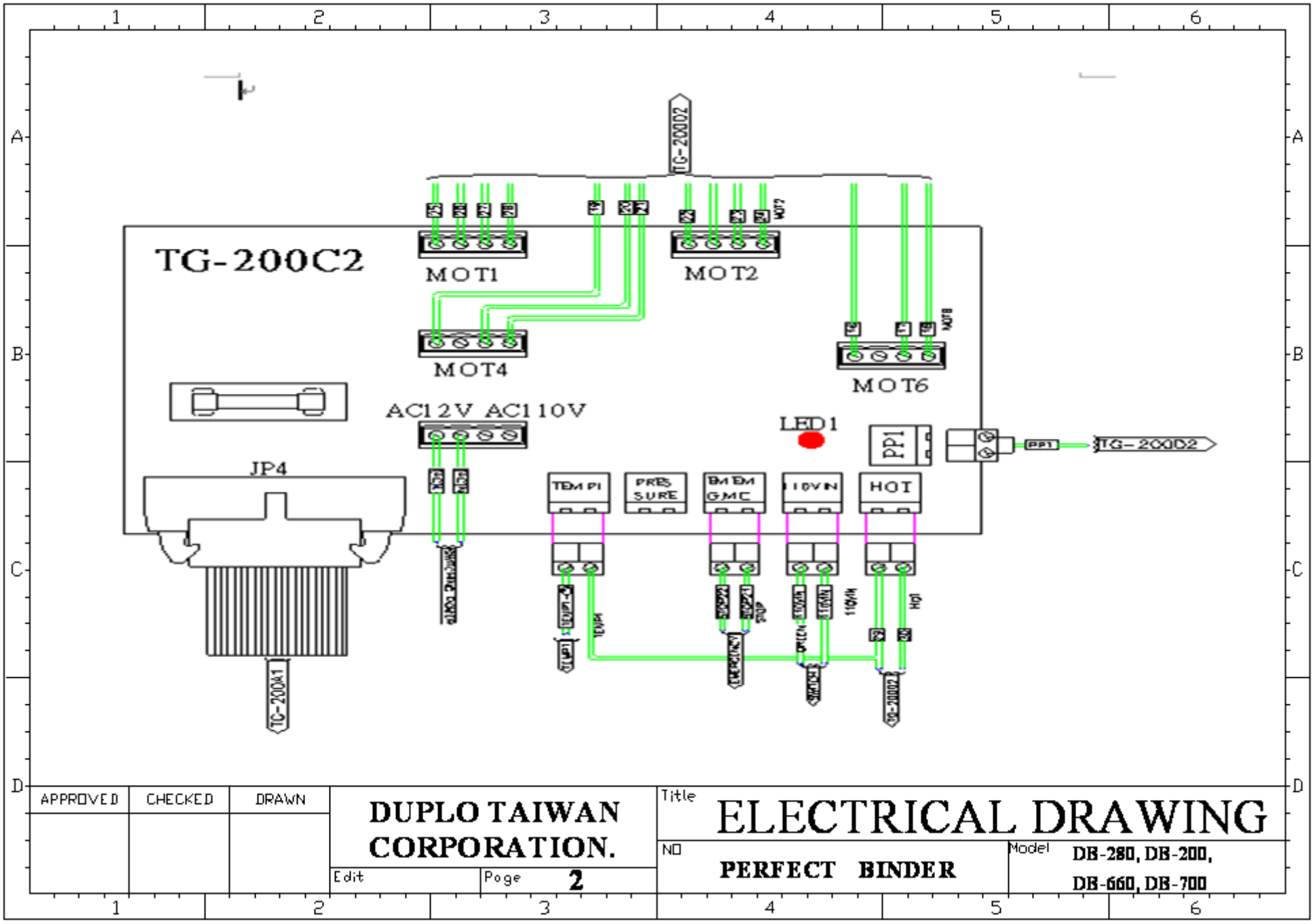
8.) Do not alter the electrical circuits unless authorized to do so by the manufacturer.

9.) When replacing electrical components, make sure they conform to the manufacturer's specifications, including proper colour coding.

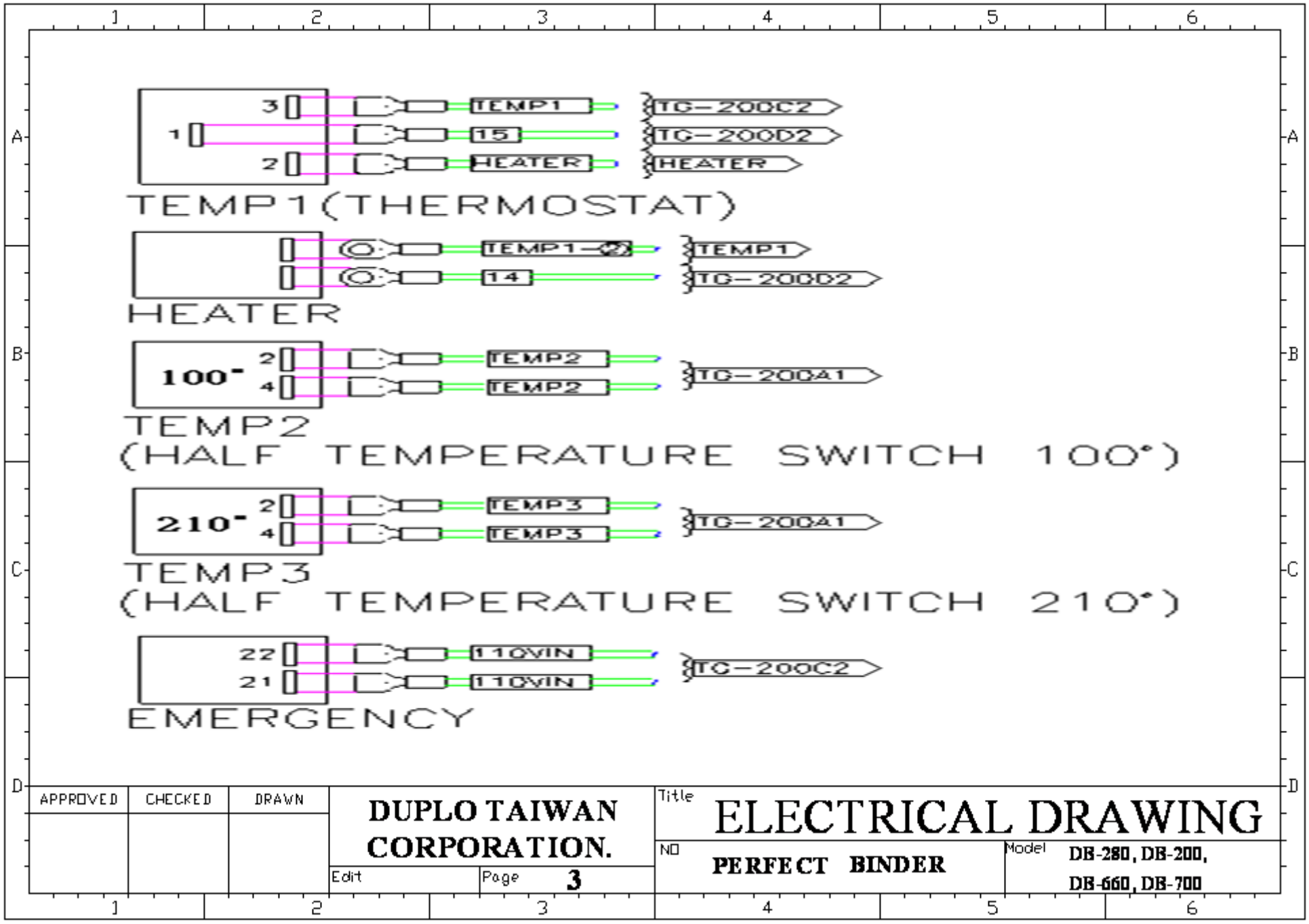
10.) Do not wear metal frame glasses, metallic necklaces or chains while working on any electrical equipment. Also do not wear any ring, watch or bracelet while operating electrical equipment.

6.2 Electrical Drawing





APPROVED	CHECKED	DRAWN	DUPLO TAIWAN CORPORATION.	Title: ELECTRICAL DRAWING
			Edit / Poge 2	NO: PERFECT BINDER / Model: DB-280, DB-200, DB-660, DB-700


3
1
2
TEMP1
15
HEATER
TC-200C2
TC-200D2
HEATER
TEMP1(THERMOSTAT)
TEMP1-2
14
TEMP1
TC-200D2
HEATER
100°
2
4
TEMP2
TEMP2
TC-200A1
TEMP2
(HALF TEMPERATURE SWITCH 100°)
210°
2
4
TEMP3
TEMP3
TC-200A1
TEMP3
(HALF TEMPERATURE SWITCH 210°)
22
21
110VIN
110VIN
TC-200C2
EMERGENCY
APPROVED
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DUPLO TAIWAN CORPORATION.
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Page 3
Title
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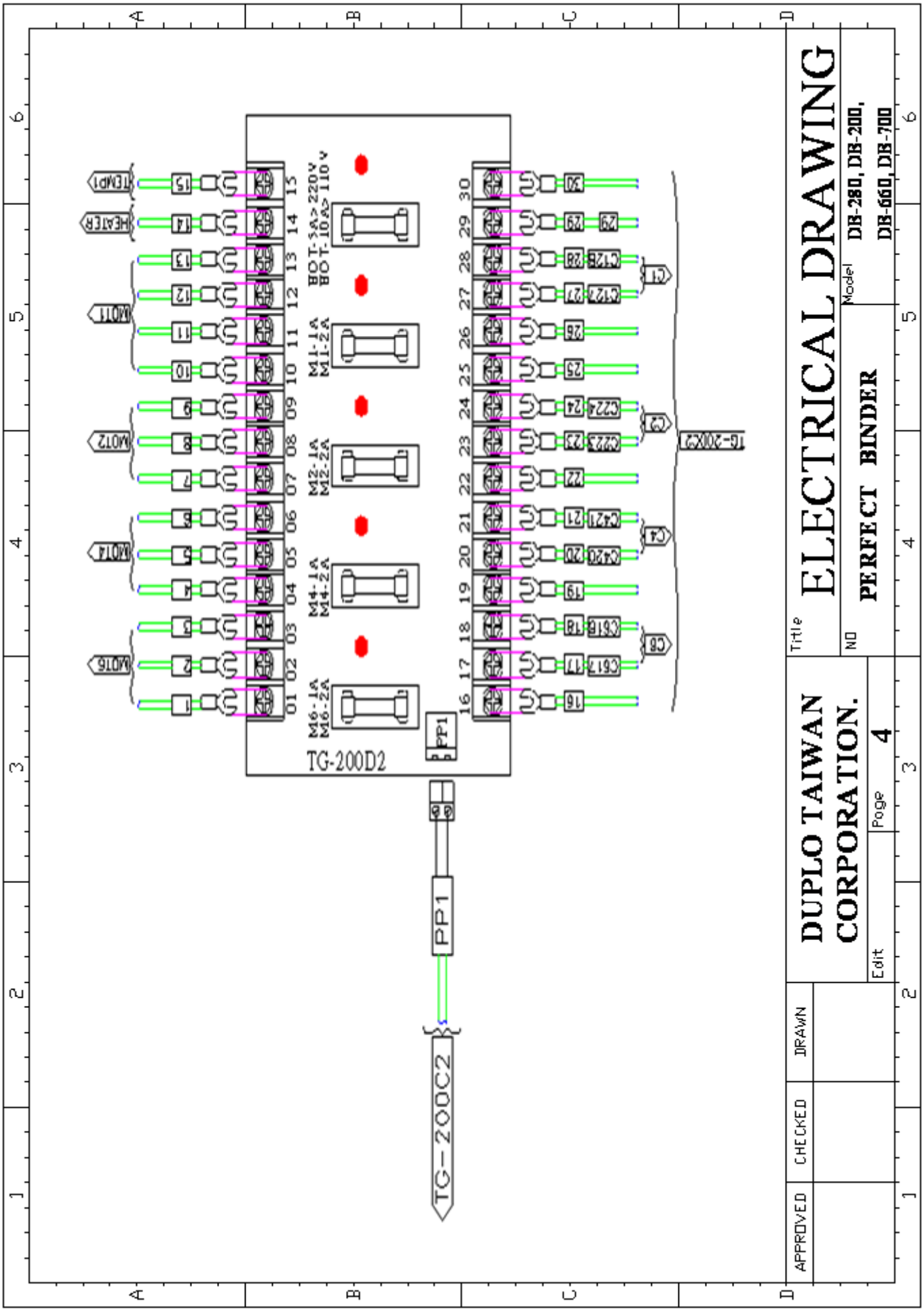
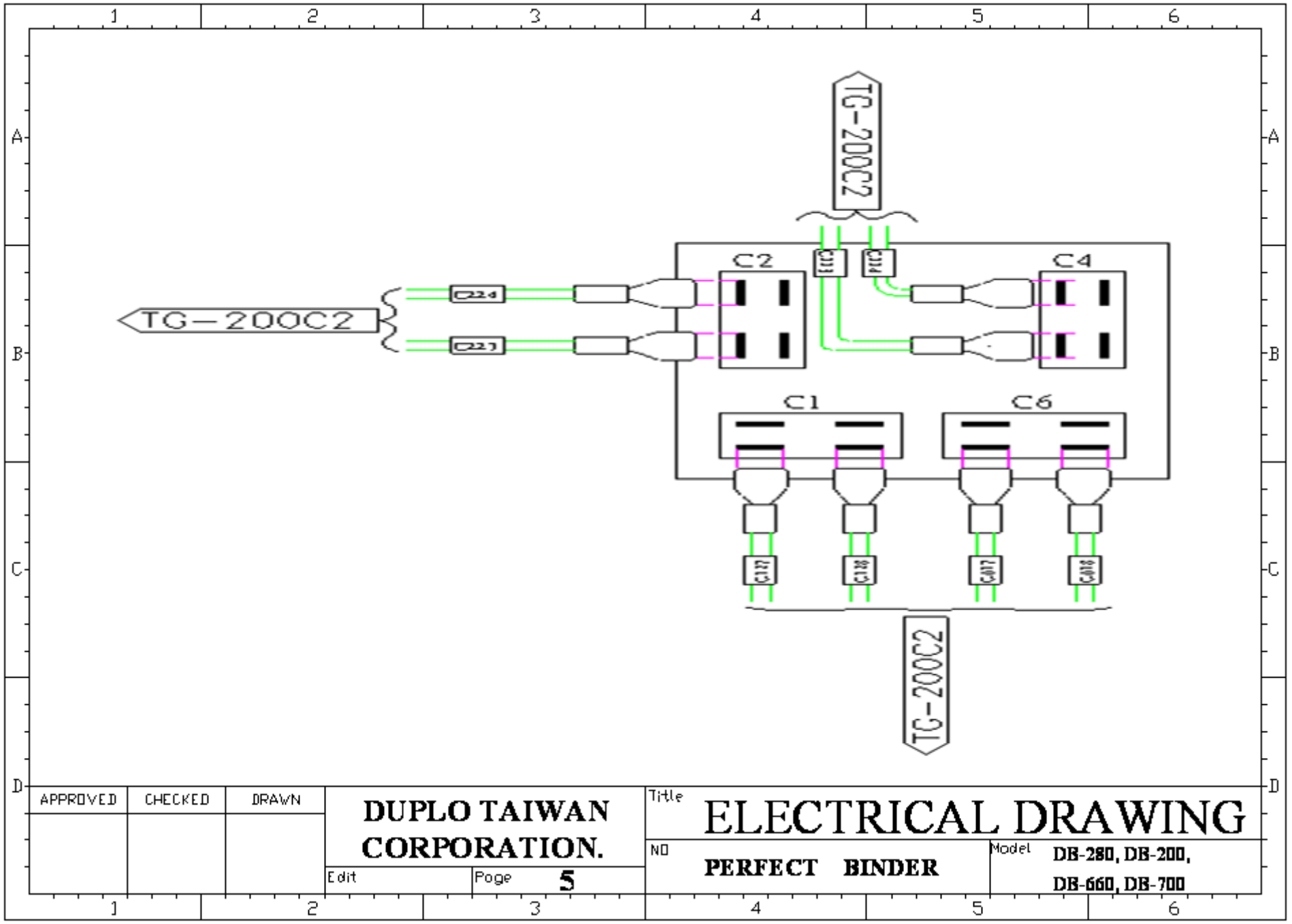
PERFECT BINDER
Model
DB-280, DB-200,
DB-660, DB-700


ELECTRICAL DRAWING
DUPLO TAIWAN CORPORATION.
PERFECT BINDER
DB-280, DB-200, DB-660, DB-700
TG-200D2
PP1
TG-200C2
APPROVED
CHECKED
DRAWN


TG-200C2
TG-200C2
C2
C4
C1
C6
TG-200C2
APPROVED
CHECKED
DRAWN
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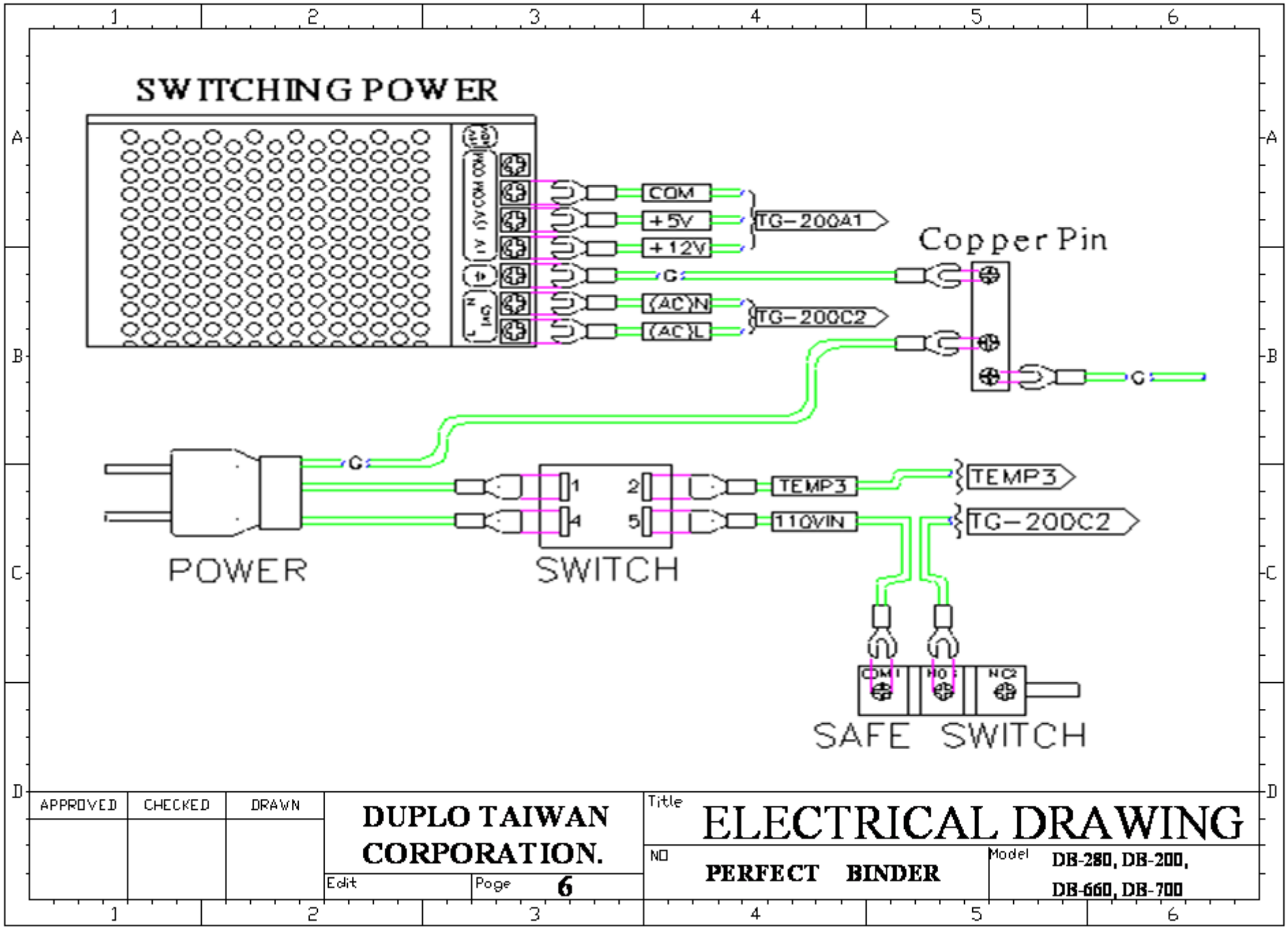
SWITCHING POWER
COM
+5V
+12V
TG-200A1
C
(AC)N
(AC)L
TG-200C2
Copper Pin
C
C
POWER
1
2
4
5
SWITCH
TEMP3
110VIN
TEMP3
TG-200C2
COM1
NO1
NC1
SAFE SWITCH
APPROVED
CHECKED
DRAWN
DUPLO TAIWAN CORPORATION.
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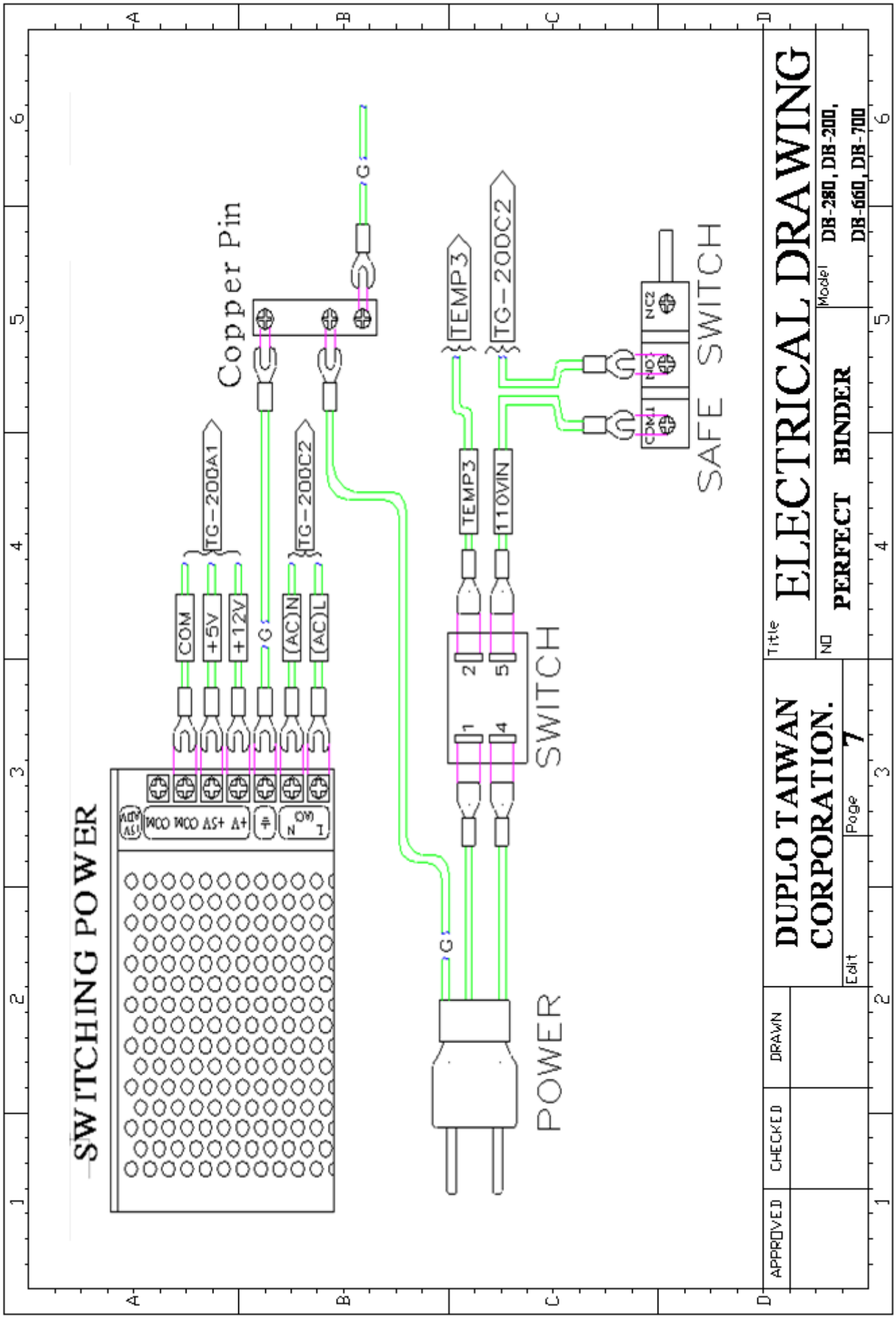
SWITCHING POWER
COM
+5V
+12V
(AC)N
(AC)L
TG-200A1
TG-200C2
Copper Pin
G
TEMP3
TG-200C2
TEMP3
110VIN
SWITCH
POWER
SAFE SWITCH
NC2
NO2
COM1
APPROVED
CHECKED
DRAWN
DUPLO TAIWAN CORPORATION.
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Title
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6.3 Electrical Component List

	Function	Symbol	Specification
1	Motor	M1	4RK25GN
2	Motor	M2	5TK50GN
3	Motor	M3	5IK40A
4	Motor	M4	2GN30K
5	Power supply	GS1	
6	EMG STOP	SB1	1A1B
7	Circuit breaker	QF1	4P
8	heater	U1	
9	Temp switch	SQ1	E.G..O
10	Temp switch	SQ2	100℃
11	Temp switch	SQ3	210℃
12	Limit switc	SQ4	Z-15GW-B
13	Photo sensor	BP1	